CompassCDS
Installation Guide

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Installation Prerequisites common to all CompassCDS installations

RAM Memory Requirements

Memory requirements of CompassCDS are listed below according to the Operating System.

Operating System	Minimum RAM (GB)	Recommended RAM (GB)	Virtual Memory (GB)
Windows 7 Professional/Ultimate/ Enterprise	4	8	4000
Windows 10 Pro/Enterprise	4	8	4000
Windows Server 2008 R2	8	16/32	4000
Windows Server 2012 R2	8	16/32	4000
Windows Server 2016	8	16/32	4000

Windows Services and Memory Utilization

The CompassCDS computer(s) should be a machine dedicated for purpose due to the limited number of Windows services that can be created on each computer as CompassCDS creates two new Windows services (Acquisition & Control System and Quick Start Engine) each time a system (instrument) is created.

CompassCDS Pre-installation Checklist

- ✓ All but one Network Interface Cards (usually the onboard NIC with static IP) must be temporarily disabled for the duration of the installation process. If additional Network Interface Cards (NICs) are present, (Wireless, VPN, VM), these must be disabled during the installation process. If this is not done during installation, users may observer a REG.C error when logging in to CompassCDS.
- ✓ The software installer must have Local Administrator level access during the installation in the case of standalone installations and Domain Administrator level access in the case of client/server or network installations (following network installs the default user level should be Domain User).
- ✓ Under Windows 7 and Windows Server 2008/2012, the property "Allow the computer to turn off this device to save power" is checked by default. This can cause serious communication issues with CompassCDS therefore all power management settings for all network (NIC) cards must be turned off.
- ✓ Windows Firewall (including Domain Firewall) must be turned off for duration of the installation.
- ✓ Any Anti-virus software must be temporarily disabled for duration of install and exclusions for certain CompassCDS folders should be set post install.

- ✓ Check that DEP (Data Execution Prevention) is de-activated for all except Microsoft Applications. To deactivate DEP, select: ‘System Properties\ Advanced\ Performance Settings\ Data Execution Prevention tab\’. Check the ‘Turn on DEP’ for essential Windows Programs and Services only option.
- ✓ It is recommended that all screen savers be disabled.
- ✓ CompassCDS requires that the display must be set to at least 1024 x 768 pixels and 16-bit color. To change these settings: right-click on the Windows Desktop and select Properties, Screen Resolution. Click on the Settings Tab to adjust screen resolution and color depth.
- ✓ It is recommended that the display font size be set to 96 DPI to correctly use CompassCDS. For Windows 7 installations, this setting can be found under Control Panel\Appearance and Personalization\Display\Set Custom Text Size (DPI)
- ✓ A formatted (NTFS) primary disk partition of at least 100 GB exists on the server onto which the CompassCDS server software is to be installed.

CompassCDS Standalone Workstation Software Installation Instructions

Preparing a Computer for CompassCDS Standalone Software Installation

The CompassCDS software should only be installed on one of the following Windows operating systems:

- Windows 7 Professional Service Pack 1 (32 or 64 bit)
- Windows 7 Enterprise Service Pack (32 or 64 bit)
- Windows 7 Ultimate Service pack 1 (32 or 64 bit)
- Windows 10 Pro (32 or 64 bit)
- Windows 10 Enterprise (32 or 64 bit)

If the CompassCDS software is being installed onto a computer that is part of an existing company or corporate local area network (LAN), ensure that the following checklist is completed before the CompassCDS software install begins.

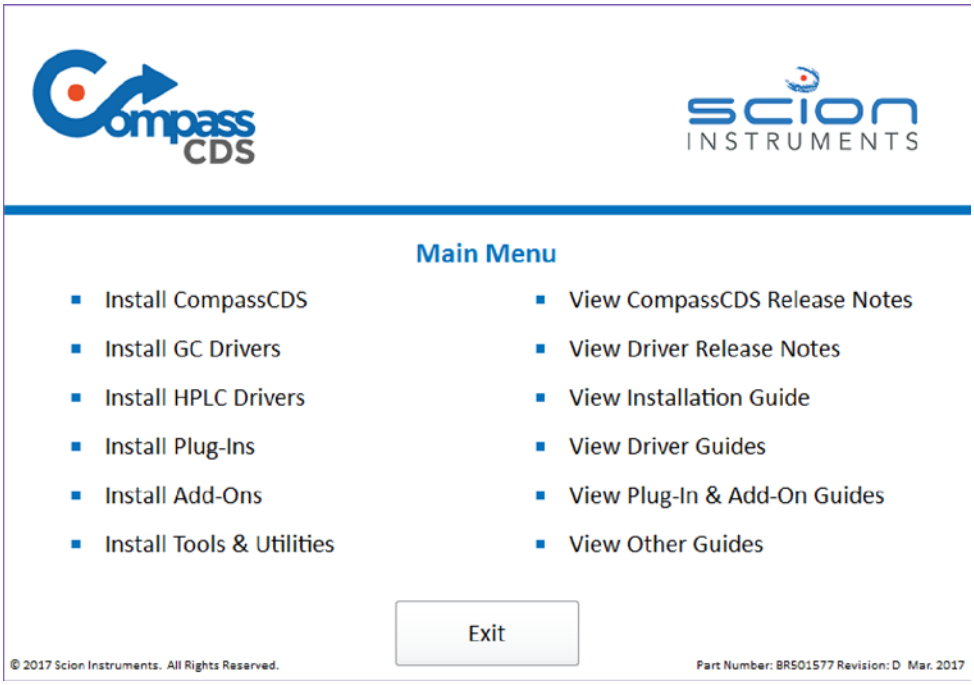
- ✓ The networked computer onto which the CompassCDS standalone software is to be installed has at least one static IP, a suitable subnet mask and, if required, a gateway IP.

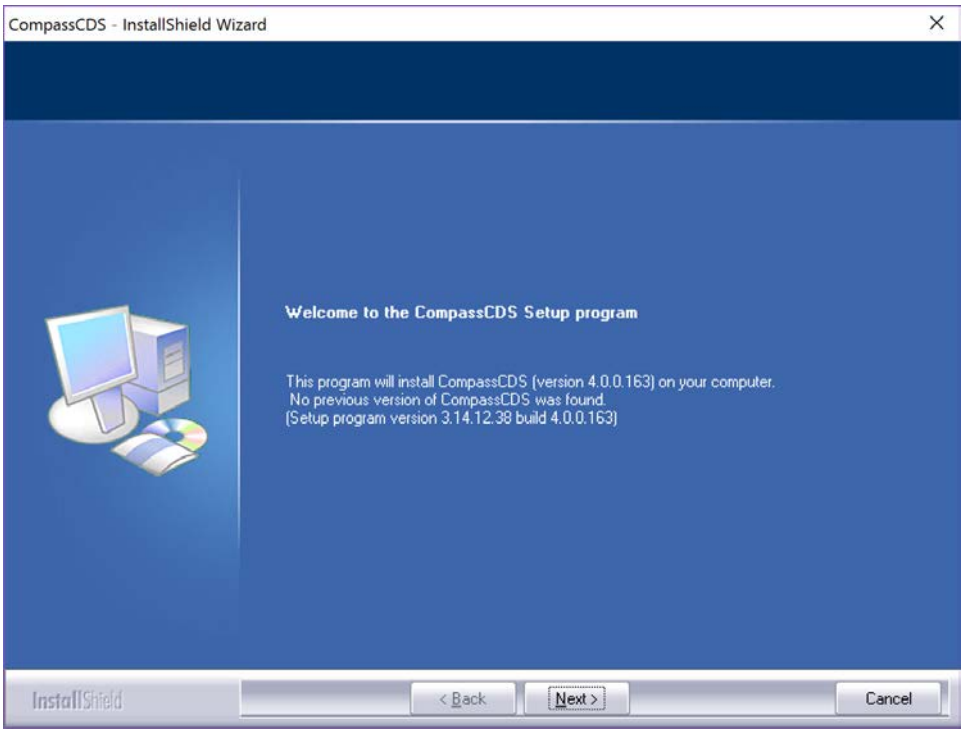
If the CompassCDS standalone software is being installed onto a new standalone computer that will not be part of a company local area network (LAN), ensure that the following computer related checklist is completed before the CompassCDS standalone software install begins.

- ✓ The computer onto which the CompassCDS standalone software is to be installed has at least one static IP, a suitable subnet mask (and if required, a gateway IP)

Installing the CompassCDS Standalone Software on a suitably prepared Windows Computer

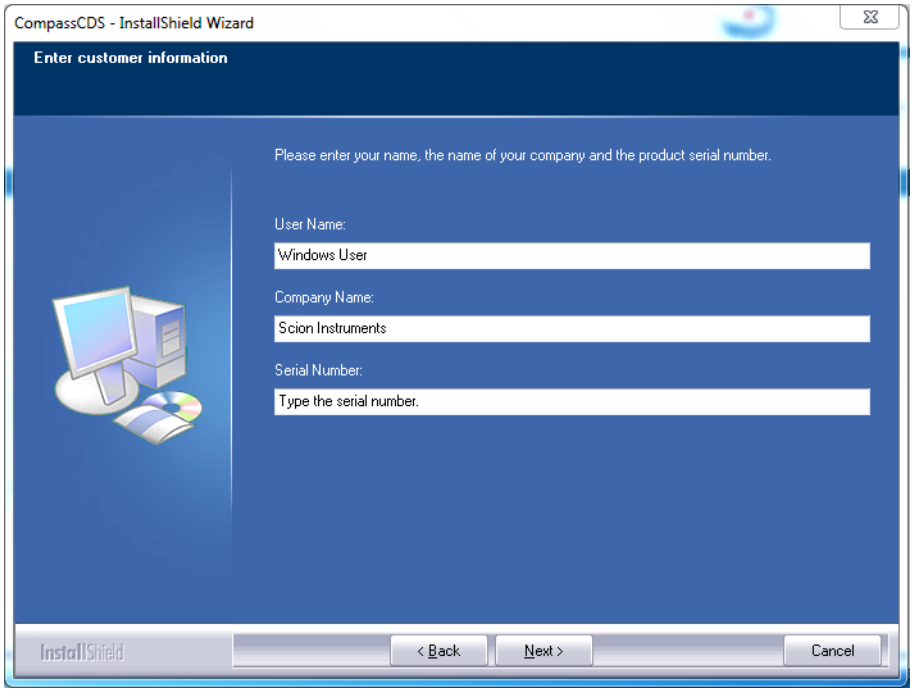
1. Refer to Appendix 1 for minimum recommended computer specifications
2. Ensure installer has local administrator rights for this computer.
3. If a legacy Galaxie installation exists, execute following steps:
    - Uninstall Galaxie via Windows Add Remove Programs
    - When requested, Reboot computer
    - After the reboot, go to C:\ Galaxie and copy the C:\Galaxie\Data folder to a different location.
    - Delete the C:\Galaxie folder and all subfolders
4. Insert the CompassCDS software media, and select the Install CompassCDS menu option (shown below). If the installation menu does not load, navigate to the CD/DVD drive (usually D:) and select the autorun option.




CompassCDS - InstallShield Wizard
Welcome to the CompassCDS Setup program
This program will install CompassCDS (version 4.0.0.163) on your computer.
No previous version of CompassCDS was found.
(Setup program version 3.14.12.38 build 4.0.0.163)
InstallShield
< Back
Next >
Cancel

5. Click Next, Next, Yes to accept the software license terms and then select the Standalone option and click Next.

6. Fill in the User Name, Company and CompassCDS Base License Serial Number provided as shown below.



7. Click Next, Next, Next and the CompassCDS software installation will proceed. When prompted, select the Restart Computer now option and the computer will initiate a re-boot sequence.

8. After the computer has completed re-booting, press Control + Alt + Delete keys and log on using the local administrator login.

9. The CompassCDS installation will continue and complete with the following message “Congratulations, you have successfully installed CompassCDS. Click Finish

10. Log into Compass Configuration Manager using:

    User: admin

    Password: compass

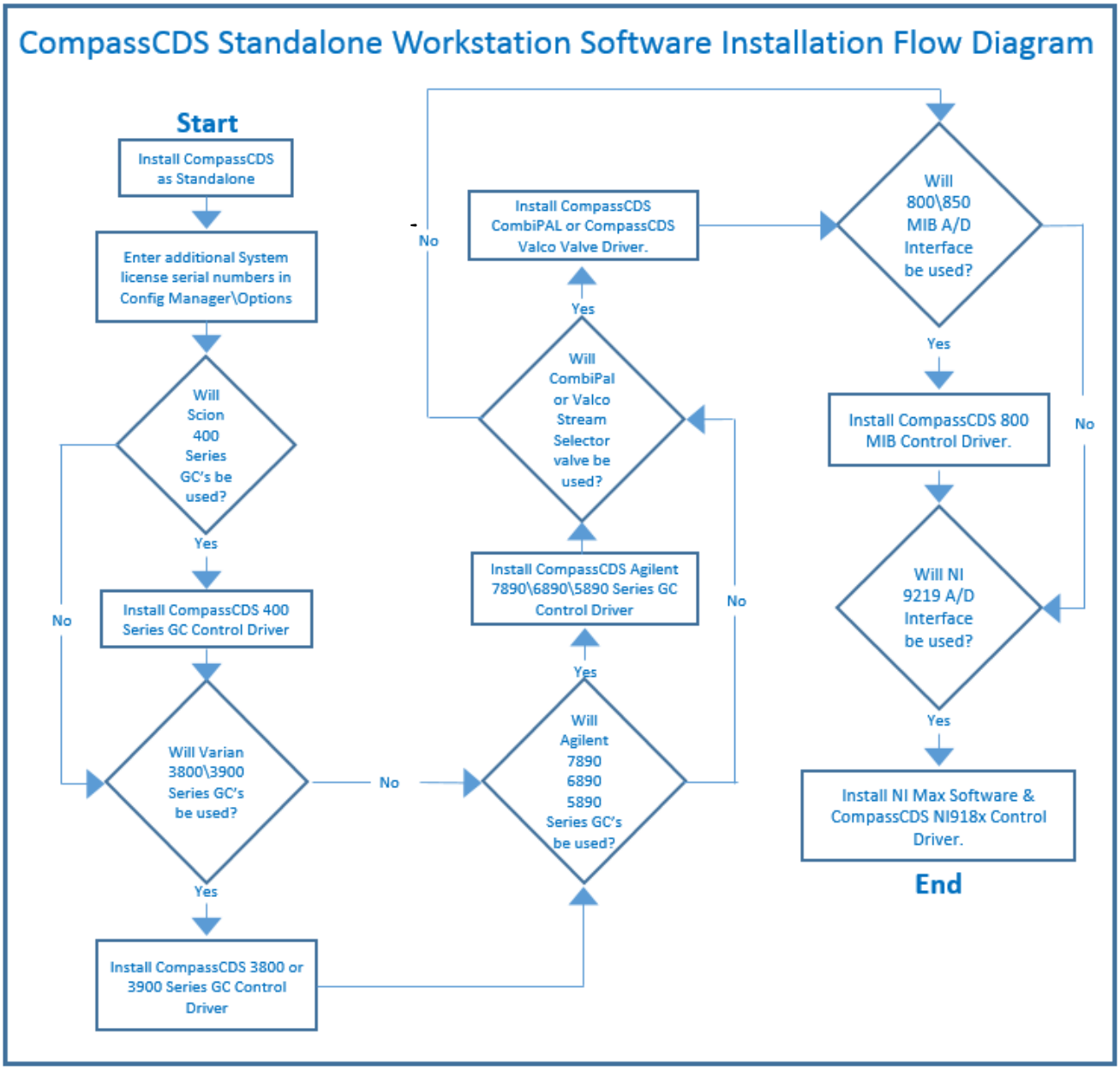
    Confirm from the top menu in Configuration Manager >Options> Licenses that the serial number entered during the initial part of the install process is listed.

11. Enter any additional System (instrument) license serial numbers by selecting the Options, Licenses, Add option.

12. CompassCDS instrument control drivers should now be installed on the CompassCDS server as this computer has automatically been designated as an acquisition & control server which means that it can “own” and control GC and LC instruments. A CompassCDS standalone software flow diagram (see below) indicates the way the instrument control drivers should be installed. To install the CompassCDS instrument control drivers, select the Drivers and Manuals menu option from the CompassCDS install CD and then select the appropriate driver set to install. Enter the appropriate serial number when prompted and let the installation complete.

13. The CompassCDS standalone software is now installed.

IMPORTANT NOTE: If any warning messages appear during the installation stating that "This service already exists….", continue with the installation and once complete, un-install CompassCDS and then re-install the software a second time. This will rectify this problem as the un-install procedure will successfully remove these services. The service(s) being referred to in the error/warning messages are artifacts from an incomplete un-install of either Galaxie or an earlier version of CompassCDS and if these are not removed, these services (usually acquisition and control) will appear to be present but will be non-functional.


CompassCDS Standalone Workstation Software Installation Flow Diagram
Start
Install CompassCDS as Standalone
Enter additional System license serial numbers in Config Manager\Options
Will Scion 400 Series GC's be used?
Yes
No
Install CompassCDS 400 Series GC Control Driver
Will Varian 3800\3900 Series GC's be used?
Yes
No
Install CompassCDS 3800 or 3900 Series GC Control Driver
Will Agilent 7890 6890 5890 Series GC's be used?
Yes
No
Install CompassCDS Agilent 7890\6890\5890 Series GC Control Driver
Will CombiPal or Valco Stream Selector valve be used?
Yes
No
Install CompassCDS CombiPAL or CompassCDS Valco Valve Driver.
Will 800\850 MIB A/D Interface be used?
Yes
No
Install CompassCDS 800 MIB Control Driver.
Will NI 9219 A/D Interface be used?
Yes
Install NI Max Software & CompassCDS NI918x Control Driver.
End

CompassCDS Server Core Software Installation Instructions

Preparing a Windows Server for CompassCDS Server Software Installation

The CompassCDS server core software should only be installed on one of the following Windows Server operating systems:

- Windows Server 2008 R2 Standard 32 or 64 bit (Full Installation)
- Windows Server 2008 R2 Enterprise 32 or 64 bit (Full Installation)
- Windows Server 2008 R2 Data Center 32 or 64 bit (Full Installation)
- Windows Server 2012 R2 64 bit (Full Installation)
- Windows Server 2016 64 bit (Full Installation)

If the CompassCDS server core software is being installed onto a server that is part of an existing company or corporate local area network (LAN), ensure that the following network/server related checklist is completed before the CompassCDS server software install begins.

- ✓ The server onto which the CompassCDS server core software is to be installed is a member of a Windows Domain with Windows Active Directory and DNS services active on this domain.
- ✓ This server should also have the server role of File Server.
- ✓ The Server onto which the CompassCDS server core software is to be installed has at least one static IP, a suitable subnet mask (and if required, a gateway IP) and an assigned DNS server address.
- ✓ The software installer has Domain Administrator level access during the installation (following install default user level should be Domain User).

If the CompassCDS server core software is being installed onto a brand-new server that will not be part of a corporate network, ensure that the following network/server related checklist is completed before the CompassCDS server core software install begins.

- ✓ The server onto which the CompassCDS server core software is to be installed as a Primary Domain Controller (PDC) with Windows Active Directory and DNS services active for the domain (usually designated as *DOMAINNAME*.*LOCAL*. Step-by-step Windows Server 2008 software installation instructions are described directly below this checklist.
- ✓ Additional server roles that should be installed on this server should include File Server and DHCP server with a defined IP scope.
- ✓ The Server onto which the CompassCDS server core software is to be installed has at least one static IP, a suitable subnet mask (and if required, a gateway IP) and an assigned DNS server address.
- ✓ The software installer has Domain Administrator level access during the installation (following install default user level should be Domain User).

Windows Server 2008 Software Installation Instructions

1. Insert Windows Server installation media
2. When prompted, select the Windows Server 2008 R2 version required for the install
    - Windows Server 2008 R2 Standard (Full Installation)
    - Windows Server 2008 R2 Enterprise (Full Installation)
    - Windows Server 2008 R2 Data Center (Full Installation)
3. Accept License Terms and select the custom install option (new copy of windows)
4. Select the correct primary disk partition and proceed with software installation.
5. Create a password suitable for Windows Server (alphanumeric with 1 upper case and 1 non-alphabetic) when prompted e.g., Compass1 Default server local login will be:

    User: Administrator

    PW: Compass1

6. When the installation has completed, the Windows Server Initial Configuration task window will appear. Perform the following tasks:
    - Activate Windows
    - Set time Zone
    - Configure NIC cards with static IPs, Subnet, Gateway and DNS (if not already done)
    - Disable NIC power management (if not already done)
    - Change computer name if required, e.g., Compass_server or as company required
    - Restart computer
7. Add server roles – click on server management icon on toolbar, select roles, add rolls
    - Active Directory domain services with Windows.Netframework 3.5.1
    - Add DHCP Server with defined IP scope
    - Add File Services
    - Promote the Server to a Domain Controller by running the dcpromo.exe (Start, Run, dcpromo.exe) and during this process, add a Domain Name (e.g. COMPASS.LOCAL)
8. This server should now be ready for the installation of the CompassCDS server software. Default server Domain login will be:

    User: COMPASS\Administrator

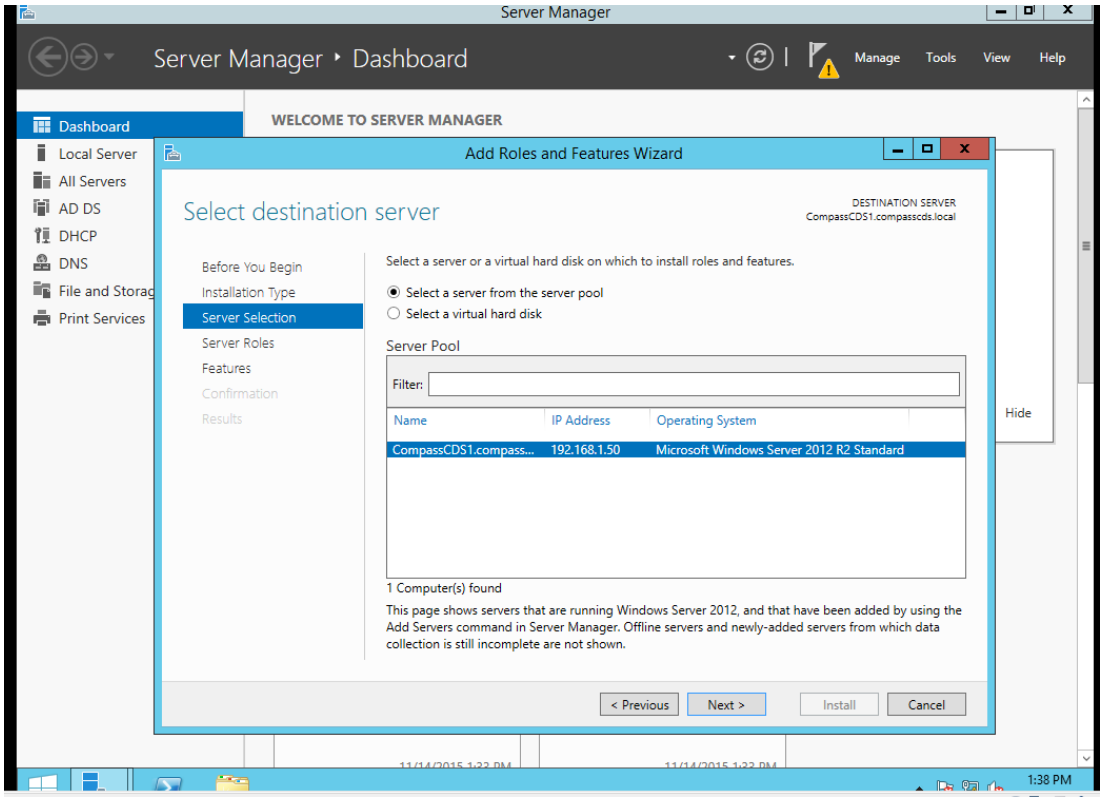
    Password: Compass1

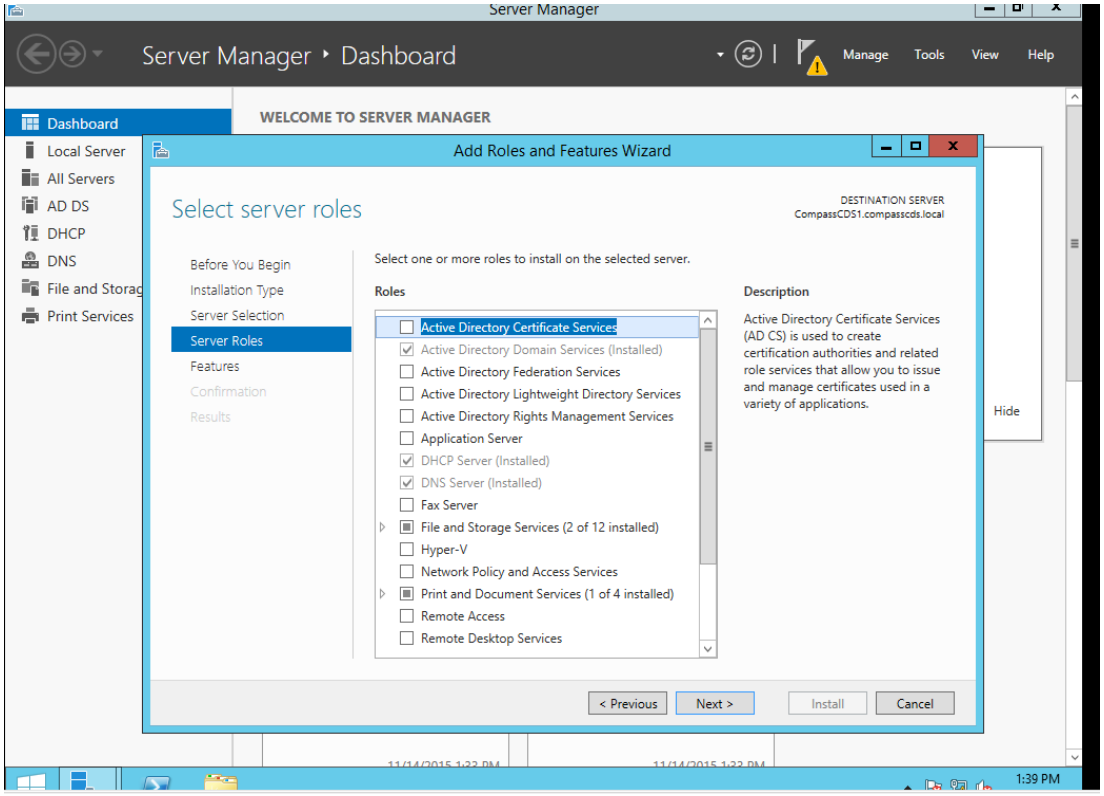
Windows Server 2012 R2 / 2016 Software Installation Instructions

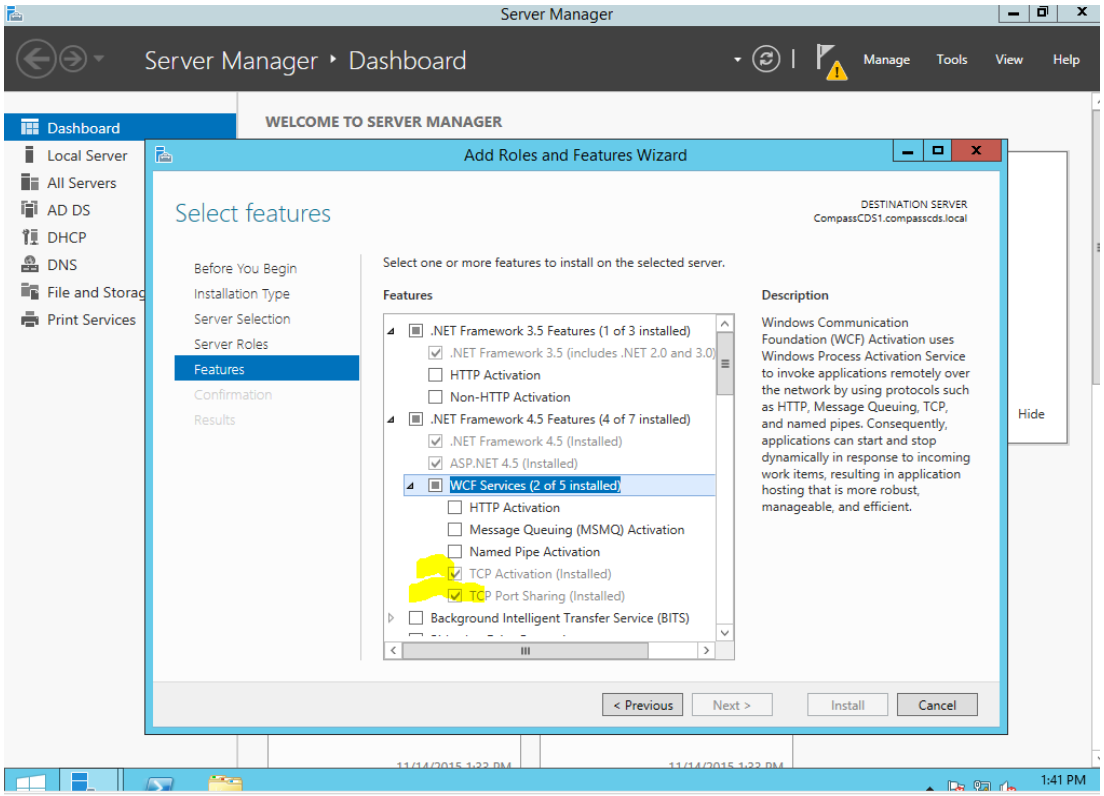
For a server that has already been prepared and is part of a company domain, contact the IT department to resolve the IP settings and the joining of the “domain”.

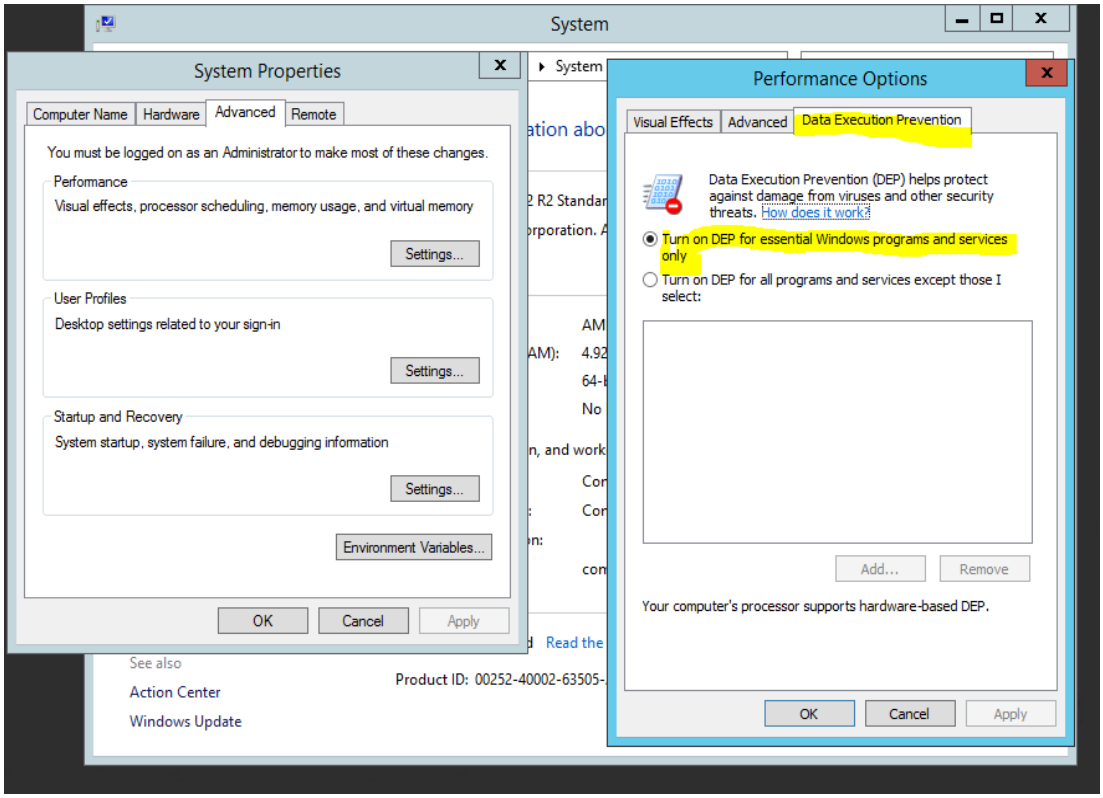
- One will still need a File server and print server role
- TCPIP will already be activated
- DEP must still be activated for Windows applications only
- Power management of the NIC’s will still need to be disabled (OFF)
- Windows Firewall still needs to be disabled
- Any anti-virus application cannot scan active CompassCDS directories
- When installing 2012R2 or 2016, follow the screenshots below to successfully implement the Operating System for preparation of a CompassCDS client server install. Starting at the Server Manager Dashboard continue with the steps listed below. This will prepare a private domain for your installation.

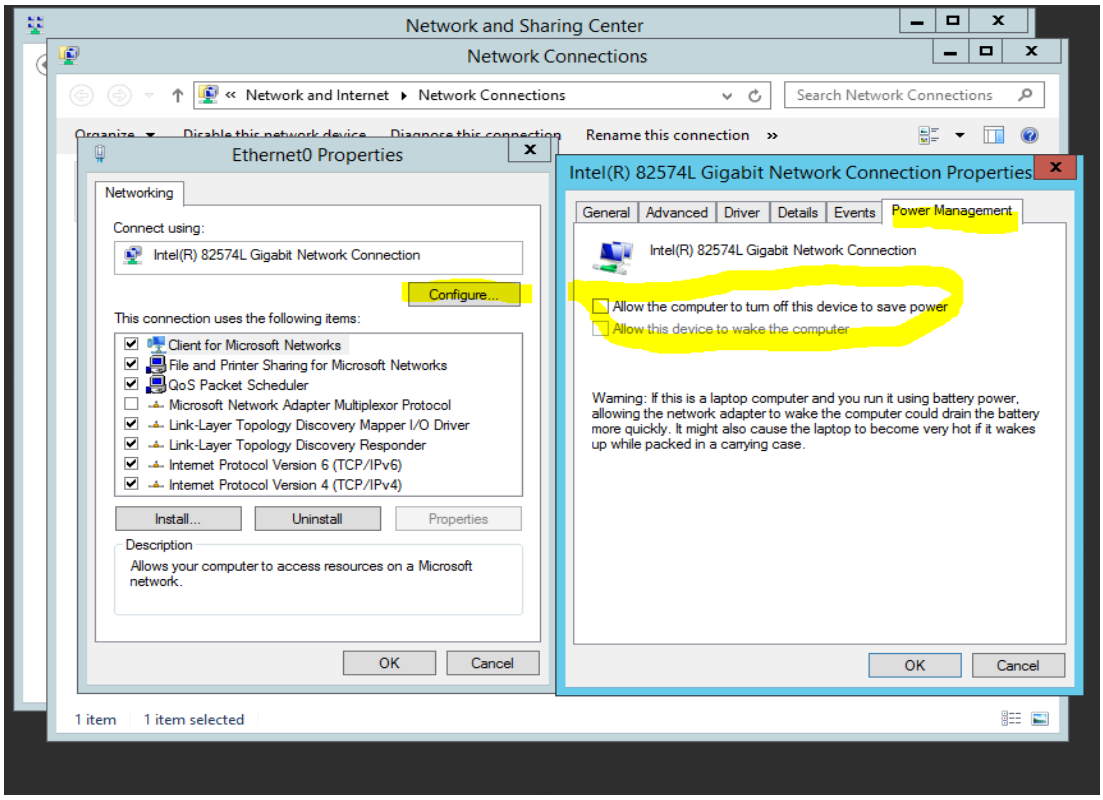
Only when you have been asked to create a private domain will you follow the following steps explicitly below.

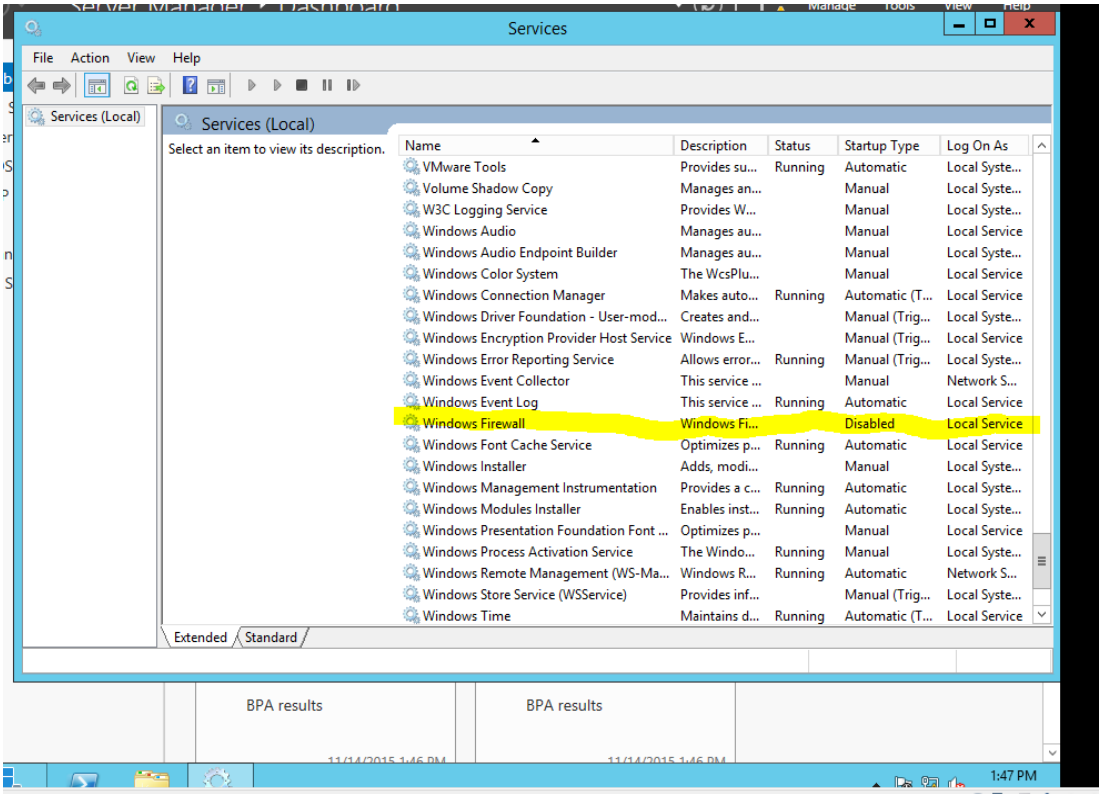


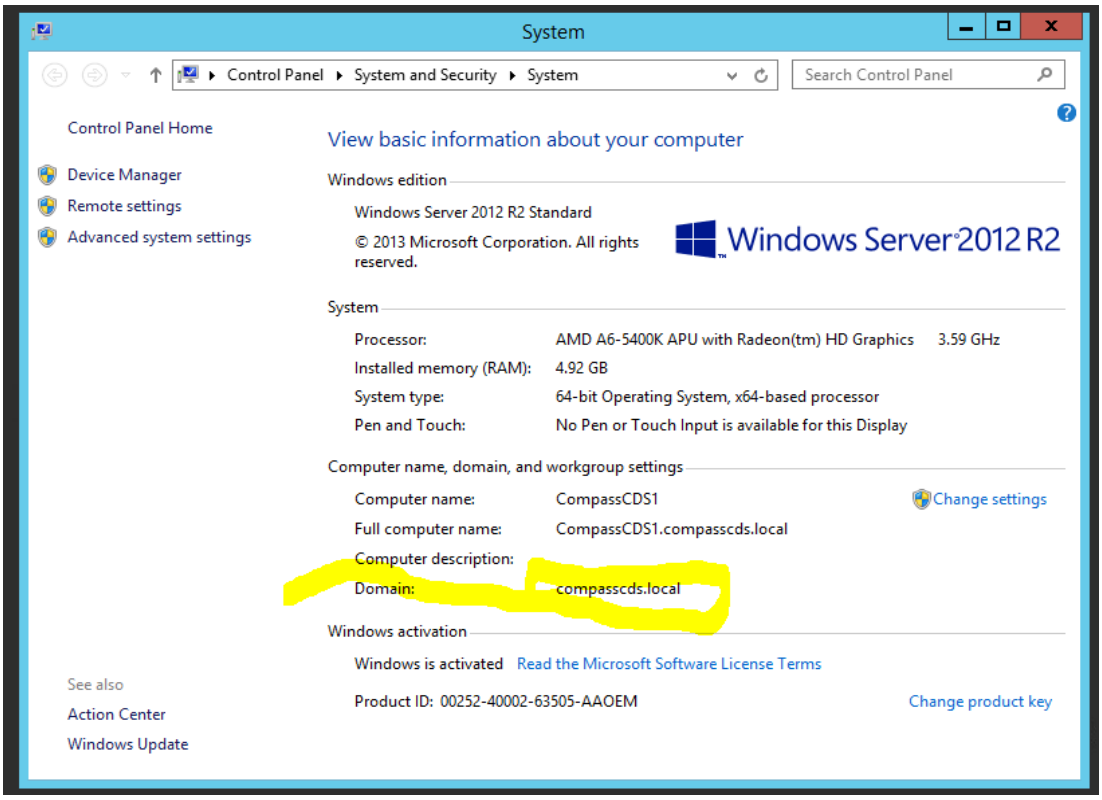

Server Manager
Server Manager ‣ Dashboard
Manage Tools View Help
Dashboard
Local Server
All Servers
AD DS
DHCP
DNS
File and Storag
Print Services
WELCOME TO SERVER MANAGER
Add Roles and Features Wizard
Select server roles
DESTINATION SERVER
CompassCDS1.compasscds.local
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
Select one or more roles to install on the selected server.
Roles
Active Directory Certificate Services
Active Directory Domain Services (Installed)
Active Directory Federation Services
Active Directory Lightweight Directory Services
Active Directory Rights Management Services
Application Server
DHCP Server (Installed)
DNS Server (Installed)
Fax Server
File and Storage Services (2 of 12 installed)
Hyper-V
Network Policy and Access Services
Print and Document Services (1 of 4 installed)
Remote Access
Remote Desktop Services
Description
Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.
< Previous
Next >
Install
Cancel
Hide
1:39 PM

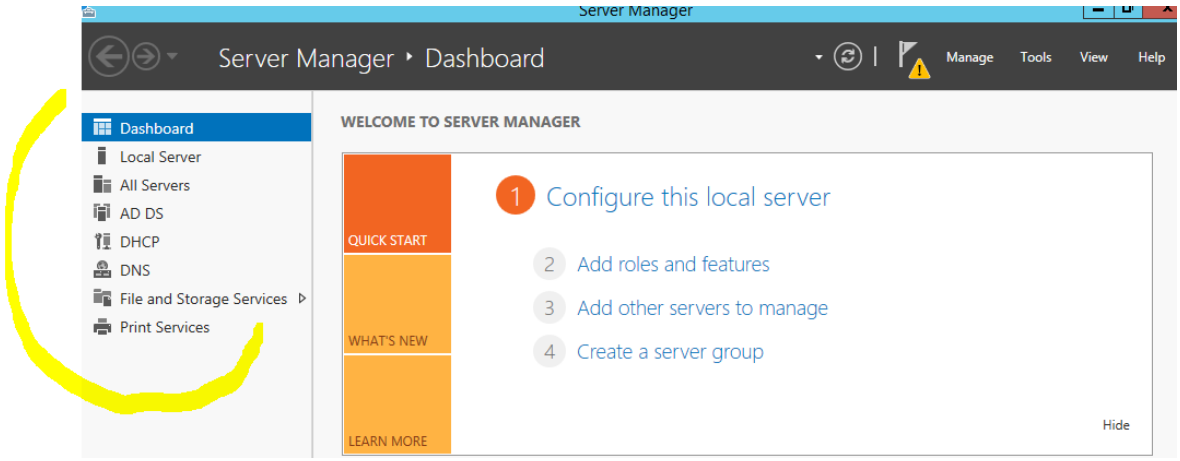

Server Manager
Server Manager ‣ Dashboard
Manage Tools View Help
Dashboard
Local Server
All Servers
AD DS
DHCP
DNS
File and Storag
Print Services
WELCOME TO SERVER MANAGER
Add Roles and Features Wizard
Select features
DESTINATION SERVER
CompassCDS1.compasscds.local
Before You Begin
Installation Type
Server Selection
Server Roles
Features
Confirmation
Results
Select one or more features to install on the selected server.
Features
.NET Framework 3.5 Features (1 of 3 installed)
.NET Framework 3.5 (includes .NET 2.0 and 3.0)
HTTP Activation
Non-HTTP Activation
.NET Framework 4.5 Features (4 of 7 installed)
.NET Framework 4.5 (Installed)
ASP.NET 4.5 (Installed)
WCF Services (2 of 5 installed)
HTTP Activation
Message Queuing (MSMQ) Activation
Named Pipe Activation
TCP Activation (Installed)
TCP Port Sharing (Installed)
Background Intelligent Transfer Service (BITS)
Description
Windows Communication Foundation (WCF) Activation uses Windows Process Activation Service to invoke applications remotely over the network by using protocols such as HTTP, Message Queuing, TCP, and named pipes. Consequently, applications can start and stop dynamically in response to incoming work items, resulting in application hosting that is more robust, manageable, and efficient.
< Previous
Next >
Install
Cancel
Hide
1:41 PM

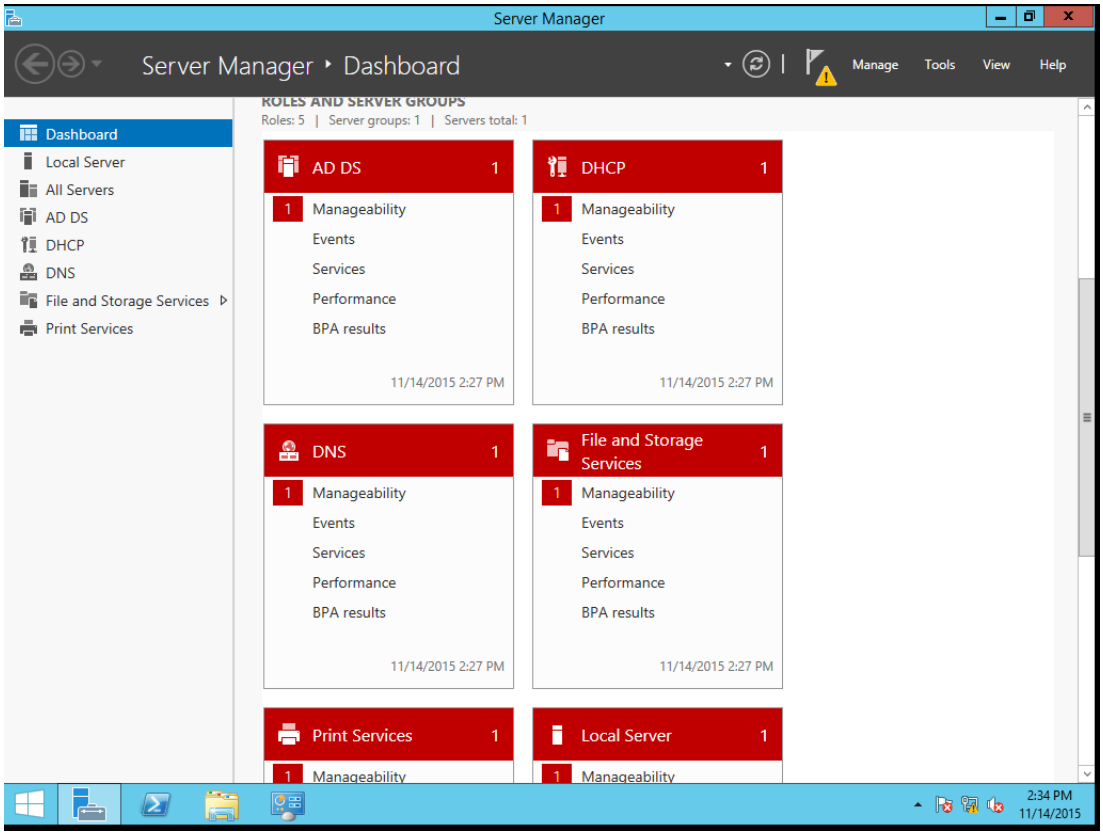

System
System Properties
Computer Name
Hardware
Advanced
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply
See also
Action Center
Windows Update
Performance Options
Visual Effects
Advanced
Data Execution Prevention
Data Execution Prevention (DEP) helps protect against damage from viruses and other security threats. How does it work?
Turn on DEP for essential Windows programs and services only
Turn on DEP for all programs and services except those I select:
Add...
Remove
Your computer's processor supports hardware-based DEP.
OK
Cancel
Apply


Network and Sharing Center
Network Connections
Network and Internet
Network Connections
Search Network Connections
Rename this connection
Ethernet0 Properties
Networking
Connect using:
Intel(R) 82574L Gigabit Network Connection
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Microsoft Network Adapter Multiplexor Protocol
Link-Layer Topology Discovery Mapper I/O Driver
Link-Layer Topology Discovery Responder
Internet Protocol Version 6 (TCP/IPv6)
Internet Protocol Version 4 (TCP/IPv4)
Install...
Uninstall
Properties
Description
Allows your computer to access resources on a Microsoft network.
OK
Cancel
Intel(R) 82574L Gigabit Network Connection Properties
General
Advanced
Driver
Details
Events
Power Management
Intel(R) 82574L Gigabit Network Connection
Allow the computer to turn off this device to save power
Allow this device to wake the computer
Warning: If this is a laptop computer and you run it using battery power, allowing the network adapter to wake the computer could drain the battery more quickly. It might also cause the laptop to become very hot if it wakes up while packed in a carrying case.
OK
Cancel
1 item
1 item selected


Services
File Action View Help
Services (Local)
Services (Local)
Select an item to view its description.
Name Description Status Startup Type Log On As
VMware Tools Provides su... Running Automatic Local Syste...
Volume Shadow Copy Manages an... Manual Local Syste...
W3C Logging Service Provides W... Manual Local Syste...
Windows Audio Manages au... Manual Local Service
Windows Audio Endpoint Builder Manages au... Manual Local Syste...
Windows Color System The WcsPlu... Manual Local Service
Windows Connection Manager Makes auto... Running Automatic (T... Local Service
Windows Driver Foundation - User-mod... Creates and... Manual (Trig... Local Syste...
Windows Encryption Provider Host Service Windows E... Manual (Trig... Local Service
Windows Error Reporting Service Allows error... Running Manual (Trig... Local Syste...
Windows Event Collector This service ... Manual Network S...
Windows Event Log This service ... Running Automatic Local Service
Windows Firewall Windows Fi... Disabled Local Service
Windows Font Cache Service Optimizes p... Running Automatic Local Service
Windows Installer Adds, modi... Manual Local Syste...
Windows Management Instrumentation Provides a c... Running Automatic Local Syste...
Windows Modules Installer Enables inst... Running Automatic Local Syste...
Windows Presentation Foundation Font ... Optimizes p... Manual Local Service
Windows Process Activation Service The Windo... Running Manual Local Syste...
Windows Remote Management (WS-Ma... Windows R... Running Automatic Network S...
Windows Store Service (WSService) Provides inf... Manual (Trig... Local Syste...
Windows Time Maintains d... Running Automatic (T... Local Service
Extended Standard
BPA results
BPA results
1:47 PM


System
Control Panel ▸ System and Security ▸ System
Search Control Panel
Control Panel Home
Device Manager
Remote settings
Advanced system settings
View basic information about your computer
Windows edition
Windows Server 2012 R2 Standard
© 2013 Microsoft Corporation. All rights reserved.
Windows Server 2012 R2
System
Processor: AMD A6-5400K APU with Radeon(tm) HD Graphics 3.59 GHz
Installed memory (RAM): 4.92 GB
System type: 64-bit Operating System, x64-based processor
Pen and Touch: No Pen or Touch Input is available for this Display
Computer name, domain, and workgroup settings
Computer name: CompassCDS1
Change settings
Full computer name: CompassCDS1.compasscds.local
Computer description:
Domain: compasscds.local
Windows activation
Windows is activated Read the Microsoft Software License Terms
Product ID: 00252-40002-63505-AAOEM
Change product key
See also
Action Center
Windows Update



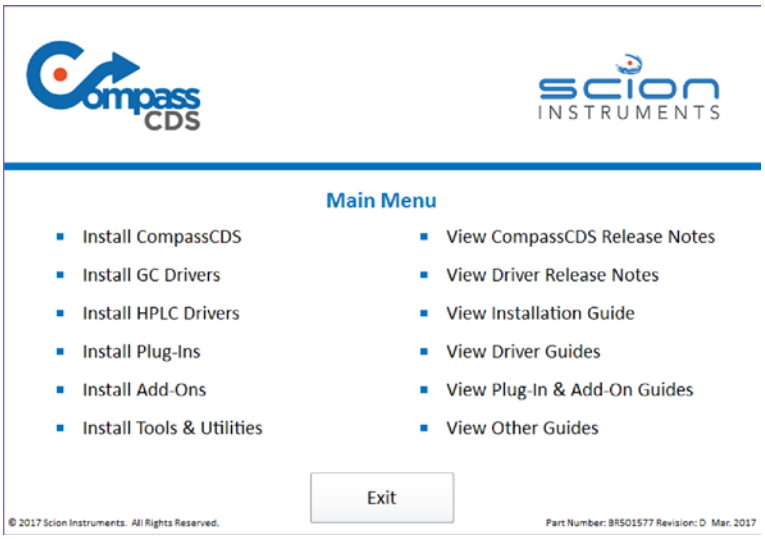


You must ignore the above errors in Server OS 2012R2/2016, close server manager and continue.

Next step is to install CompassCDS as a Main Server.

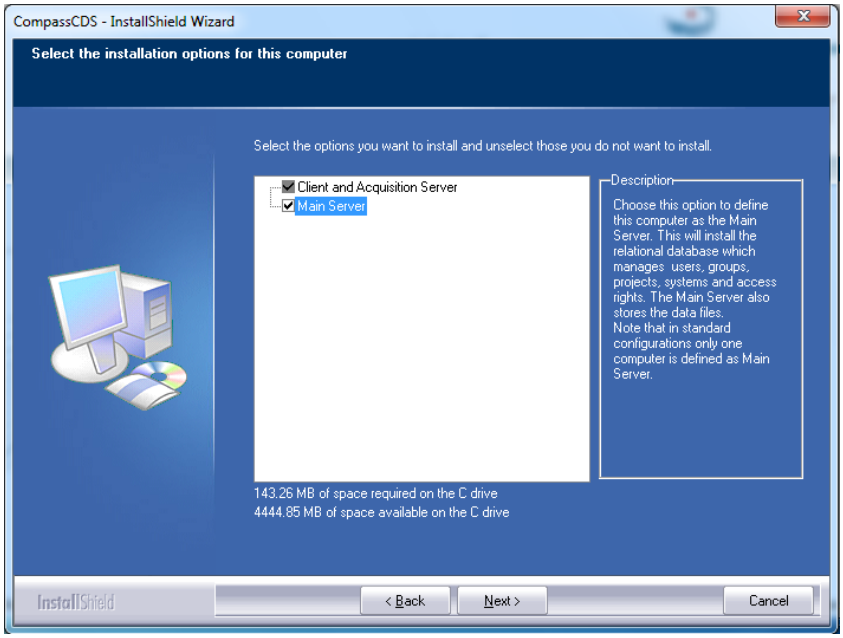
Installing the CompassCDS Server Core Software on a prepared Windows Server

1. Insert the CompassCDS software media, and select the Install CompassCDS menu option (shown below). If the installation menu does not load, navigate to the CD/DVD drive (usually D:) and select the autorun option.

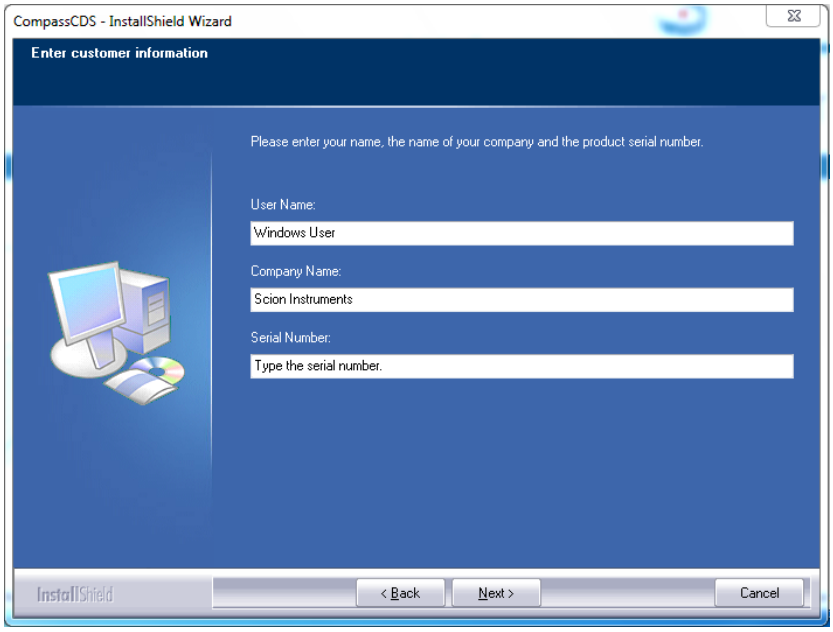


2. Click Next, Next, Yes to accept the software license terms and then select the Client/Server option and click Next. The Standalone install option is only used for non-client server CompassCDS installations as described in the preceding section.

3. Check the Client and Acquisition Server and Main Server option checkboxes (as shown below) and click Next.


CompassCDS - InstallShield Wizard
Select the installation options for this computer
Select the options you want to install and unselect those you do not want to install.
Client and Acquisition Server
Main Server
Description
Choose this option to define this computer as the Main Server. This will install the relational database which manages users, groups, projects, systems and access rights. The Main Server also stores the data files. Note that in standard configurations only one computer is defined as Main Server.
143.26 MB of space required on the C drive
4444.85 MB of space available on the C drive
InstallShield
< Back
Next >
Cancel

4. Fill in the User Name, Company and enter the CompassCDS Base License Serial Number provided as shown below.



5. Click Next, Next, Next and the CompassCDS software installation will proceed. When prompted, select the restart computer now option and the server will initiate a reboot sequence.

6. After the server has completed re-booting, press Control + Alt + Delete and log on to the Domain using the administrator login. A typical Windows domain logon using the COMPASS.LOCAL domain created earlier would be as follows:

   User: COMPASS\Administrator
   Password: Compass1

7. The CompassCDS installation will continue and complete with the following message “Congratulations, you have successfully installed CompassCDS. Click Finish

8. Log into Compass Configuration Manager using:

   User: admin
   Password: compass

   Confirm from the menu in Configuration Manager, Options, Licenses, which the serial number entered during the initial part of the install process is listed and reflects the correct number of System and Station licenses.

9. Enter any additional Station (computer) and System (instrument) license serial numbers by selecting the Add option.

10. CompassCDS instrument control drivers should now be installed on the CompassCDS server as this computer has been designated as an acquisition & control server which means that it can “own” and control GC and LC instruments. A CompassCDS server core software flow diagram (see below) indicates the way the instrument control drivers should be installed. To install the CompassCDS instrument control drivers, select the Drivers and Manuals menu option from the CompassCDS install CD and then select the appropriate

driver set to install. Enter the appropriate serial number when prompted and let the installation complete.

11. Check that Internet Explorer Active Scripting is enabled (Go to Internet Explorer, Tools, Internet Options, Security, Internet, Custom Level, Active Scripting – Enable).

12. Once the driver software installation has completed, select the Tools and Documentation option from the CompassCDS media and run the CompassCDS Diagnostics Tool. This tool will install an UltiPro web server as part of the CompassCDS Diagnostics Tool setup.

13. Run the CompassCDS DCOM Tool from the desktop icon and click on the CompassCDS Installation Analysis option. Click on Go and Fix Issues. Check that any flagged items (red) are now green. Close this window.

14. The CompassCDS server core software is now installed.

IMPORTANT NOTE: If any warning messages appear during the installation stating that "This service already exists….", continue with the installation and once complete, un-install CompassCDS and then re-install the software a second time. This will rectify this problem as the un-install procedure will successfully remove these services. The service(s) being referred to in the error/warning messages are artifacts from an incomplete un-install of either Galaxie or an earlier version of CompassCDS and if these are not completely removed, these services (usually acquisition & control) will appear to be present but will be non-functional.

NOTES: It is important to install and run the CompassCDS Diagnostics Tool after installing CompassCDS as a main server or client to automatically set all the required DCOM permissions correctly.

If error messages such as "Error extracting support files", "Error installing Ikernel .exe", "Access is denied", "Error loading type library/DLL" are displayed during the installation, it will be necessary to edit the registry as follows and then perform an uninstall and re-install of the CompassCDS software.

CAUTION Use caution when editing – edits to registry may severely damage your system.

15. Click on the 'Windows Start' button and select 'RUN'. Type REGEDIT and click 'OK'. In REGEDIT find and remove the key {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} in:Hkey_local_machine \ Software\Microsoft \ Windows\CurrentVersion\Uninstall

16. Next remove the folder {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} located in: 'Program Files \ InstallShield\ Installation Information'.

17. Then remove the contents of the folder where CompassCDS was installed, except for files with an extension: .DDB, .DDC and the generated files (DATA, .METH, .CALB.etc).

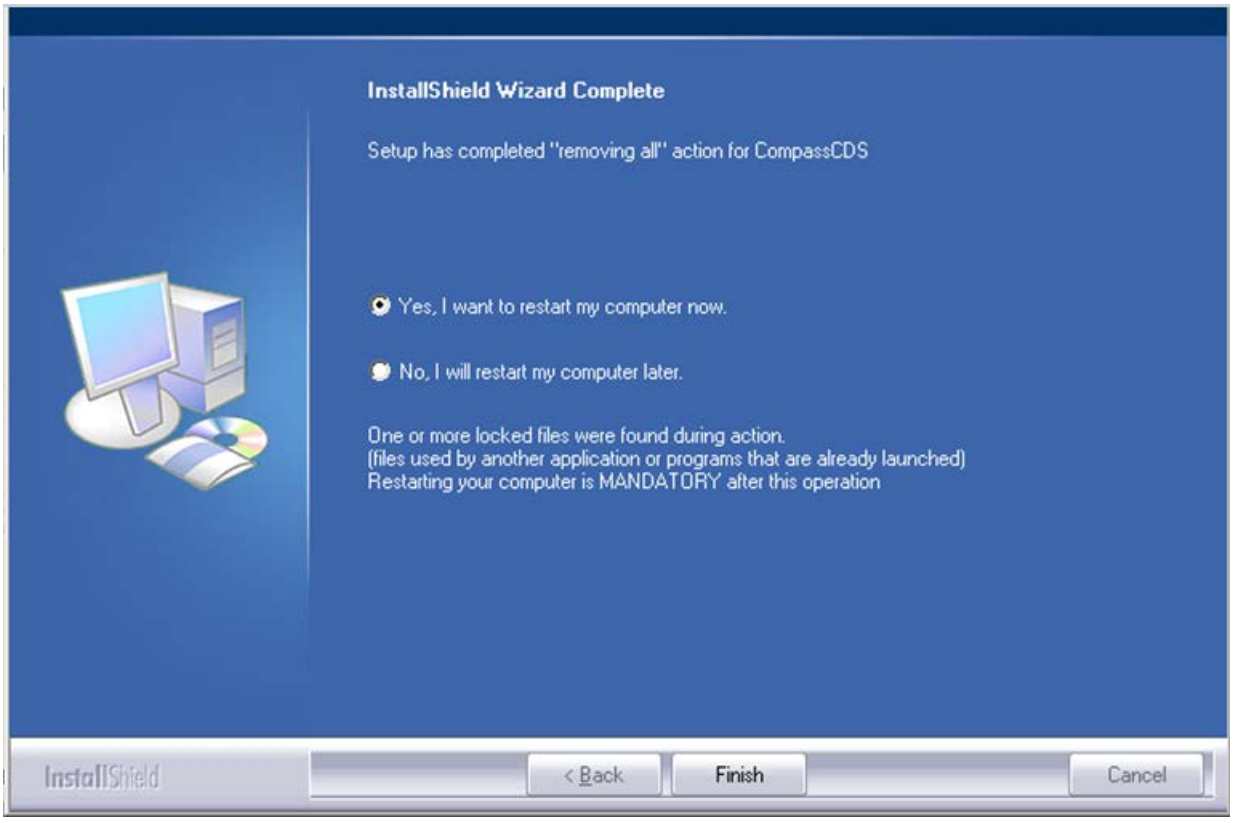
Uninstalling CompassCDS

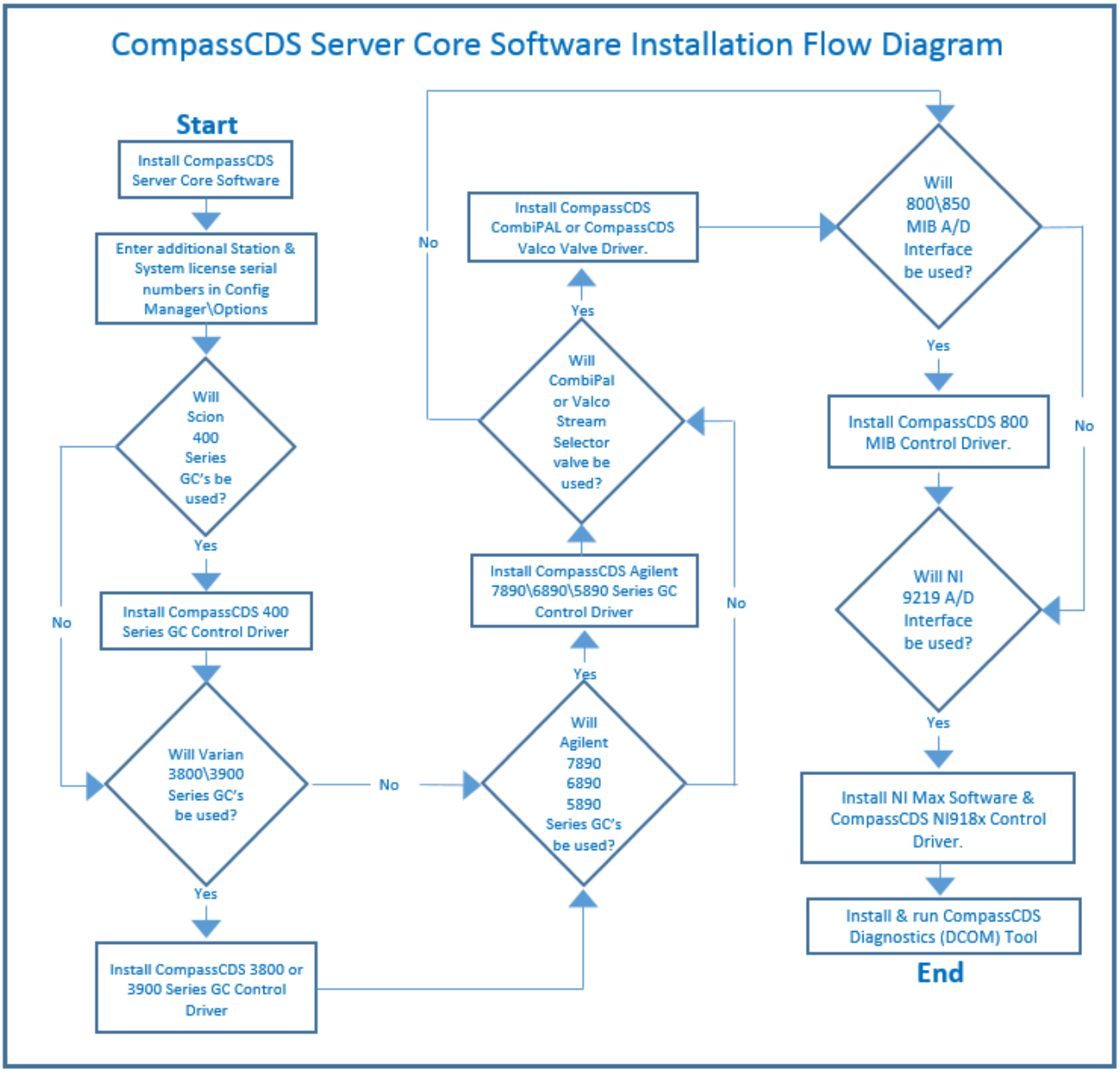
During the uninstall process, the following message asks the user to confirm the removal of the CompassCDS software. Click on ‘Yes’ to uninstall or ‘No’ to stop the uninstall process.

After all the files have been removed, the following dialog is displayed. Click on ‘Finish’.

A dialog box then appears indicating that the computer needs to be rebooted.

Click on ‘Finish’ to complete the software removal and reboot the computer.


InstallShield Wizard Complete
Setup has completed "removing all" action for CompassCDS
Yes, I want to restart my computer now.
No, I will restart my computer later.
One or more locked files were found during action.
(files used by another application or programs that are already launched)
Restarting your computer is MANDATORY after this operation
InstallShield
< Back
Finish
Cancel


CompassCDS Server Core Software Installation Flow Diagram
Start
Install CompassCDS Server Core Software
Enter additional Station & System license serial numbers in Config Manager\Options
Will Scion 400 Series GC's be used?
Yes
No
Install CompassCDS 400 Series GC Control Driver
Will Varian 3800\3900 Series GC's be used?
Yes
No
Install CompassCDS 3800 or 3900 Series GC Control Driver
Will Agilent 7890 6890 5890 Series GC's be used?
Yes
No
Install CompassCDS Agilent 7890\6890\5890 Series GC Control Driver
Will CombiPal or Valco Stream Selector valve be used?
Yes
No
Install CompassCDS CombiPAL or CompassCDS Valco Valve Driver.
Will 800\850 MIB A/D Interface be used?
Yes
No
Install CompassCDS 800 MIB Control Driver.
Will NI 9219 A/D Interface be used?
Yes
Install NI Max Software & CompassCDS NI918x Control Driver.
Install & run CompassCDS Diagnostics (DCOM) Tool
End

CompassCDS Client Software Installation Instructions

Preparing a Windows Computer for CompassCDS Client Software Installation

The CompassCDS client software should only be installed on one of the following Windows operating systems:

- Windows 7 Professional Service Pack 1 (32 or 64 bit)
- Windows 7 Enterprise Service Pack (32 or 64 bit)
- Windows 7 Ultimate Service Pack 1 (32 or 64 bit)
- Windows 10 Pro (32 or 64 bit)
- Windows 10 Enterprise (32 or 64 bit)

If the CompassCDS client software is being installed onto a computer that is part of an existing company or corporate local area network (LAN), ensure that the following network/server related checklist is completed before the CompassCDS client software install begins.

The computer onto which the CompassCDS server core software is to be installed is already a member of the same Windows Domain (with Windows Active Directory and DNS services active) onto which the CompassCDS server software was installed.

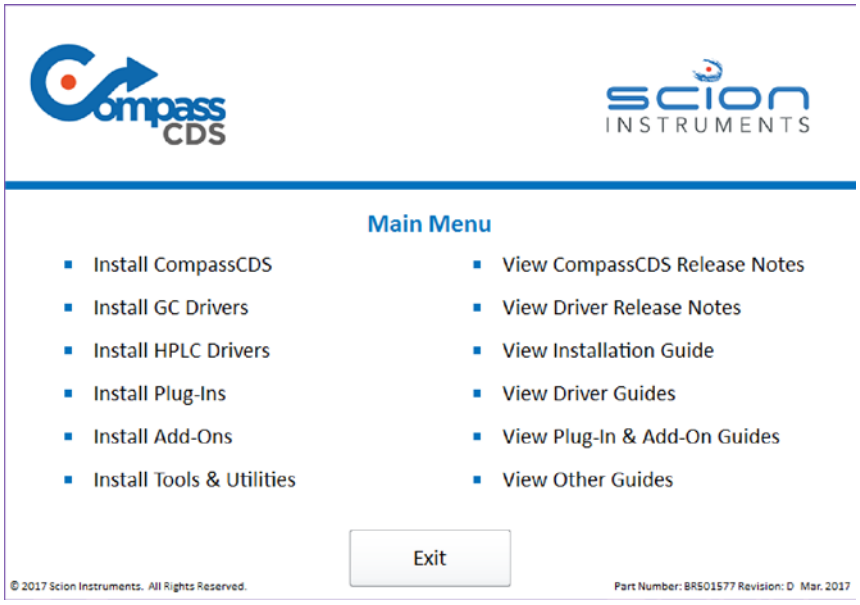
The computer onto which the CompassCDS server core software is to be installed has at least one static IP (if to be assigned as a CompassCDS acquisition and control server,) a suitable subnet mask (and if required, a gateway IP) and an assigned DNS server address, otherwise DHCP IP assignment will be adequate.

The software installer has Domain Administrator level access during the installation (following install default user level should be Domain User).

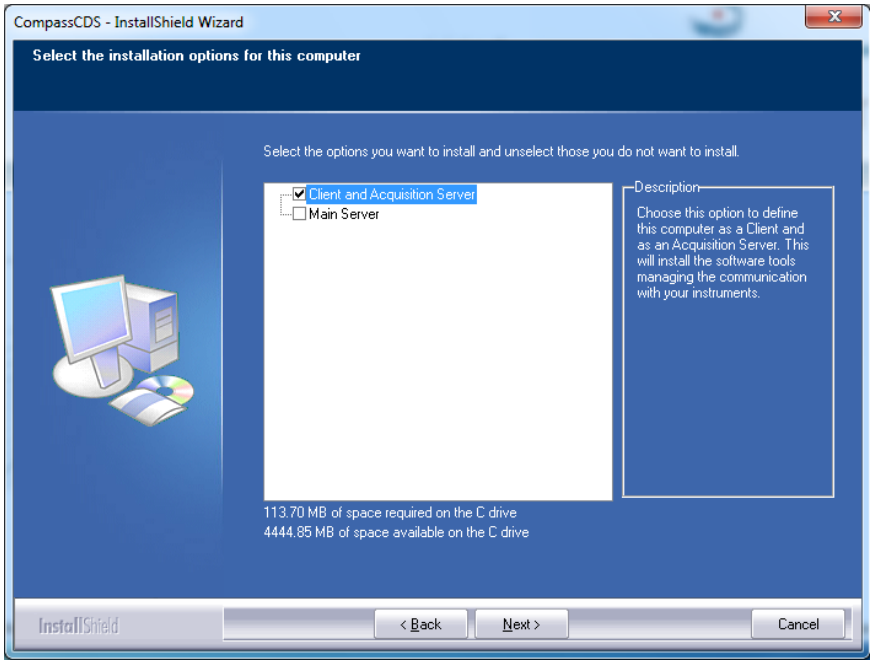
If the client is intended for IPC-MS regulatory support, only a 32-bit Operating system can be used.

Installing CompassCDS client Software on a suitably prepared Windows computer

1. Ensure that the CompassCDS server (already installed) has sufficient Station (computer) and System (instrument) licenses installed to allow for one or more CompassCDS client computer installations.
2. Insert the CompassCDS software media into the client computer, and select the *Install CompassCDS* menu option (shown below). If the installation menu does not load, navigate to the CD drive (usually D:) and select the autorun option.



3. Click Next, Next, Yes to accept the software license terms and then select the Client/Server option and click Next. The Standalone option is only ever used for non-client server CompassCDS installations.
4. Check the Client and Acquisition Server checkbox only and NOT the Main Server option checkbox (as shown below) and click Next.


CompassCDS - InstallShield Wizard
Select the installation options for this computer
Select the options you want to install and unselect those you do not want to install.
Client and Acquisition Server
Main Server
Description
Choose this option to define this computer as a Client and as an Acquisition Server. This will install the software tools managing the communication with your instruments.
113.70 MB of space required on the C drive
4444.85 MB of space available on the C drive
InstallShield
< Back
Next >
Cancel

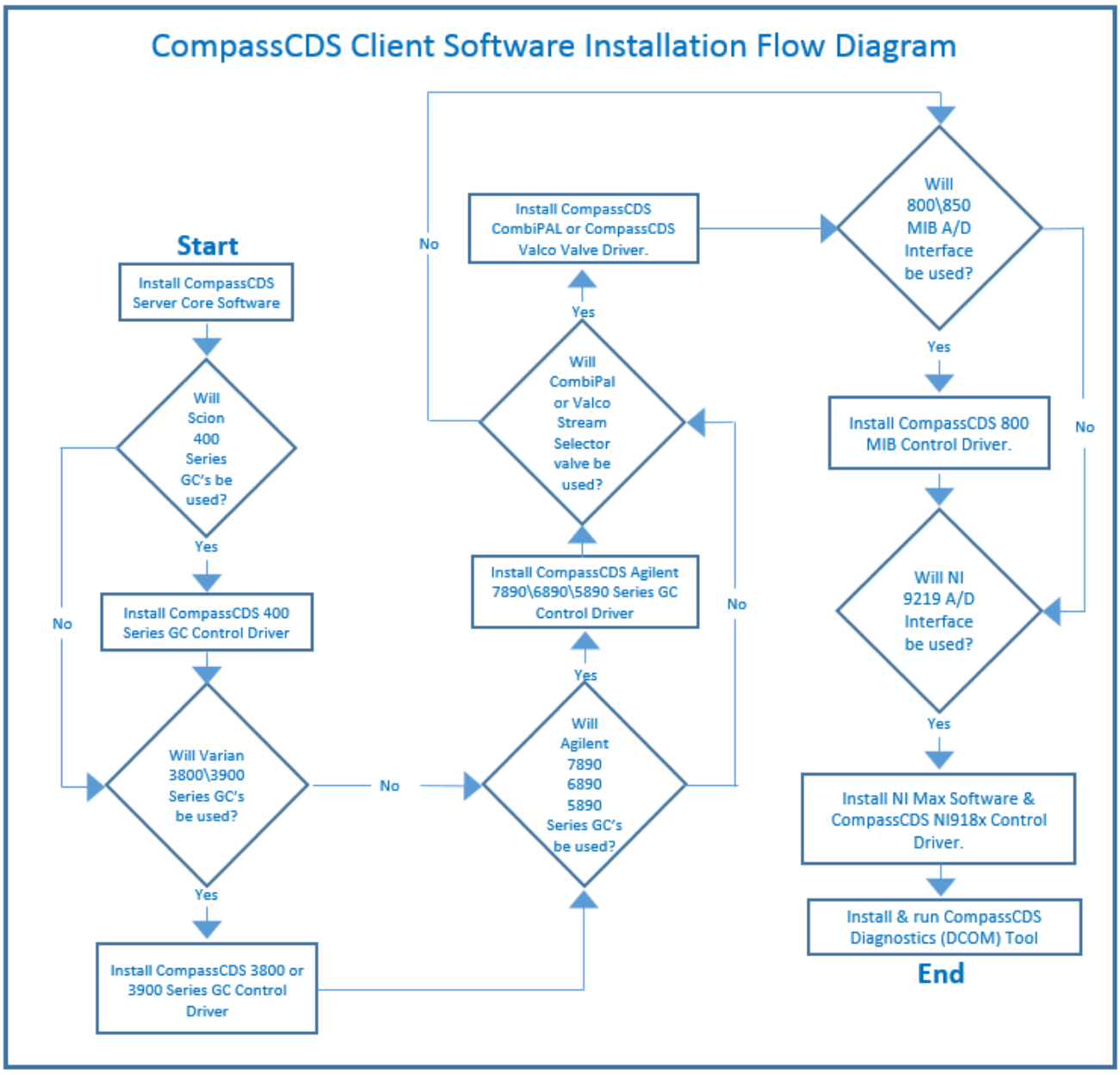
5. Click Next, Next, Next and the CompassCDS software installation will proceed. When prompted, select the restart computer now option and the server will initiate a re-boot sequence.
6. After the computer has completed re-booting, press Control + Alt + Delete keys and log on to the Domain using the administrator login.
7. The CompassCDS client software installation will continue and complete with the following message “Congratulations, you have successfully installed CompassCDS. Click Finish.

8. Log into Compass Configuration Manager from the client computer using:

   User: admin

   Password: compass

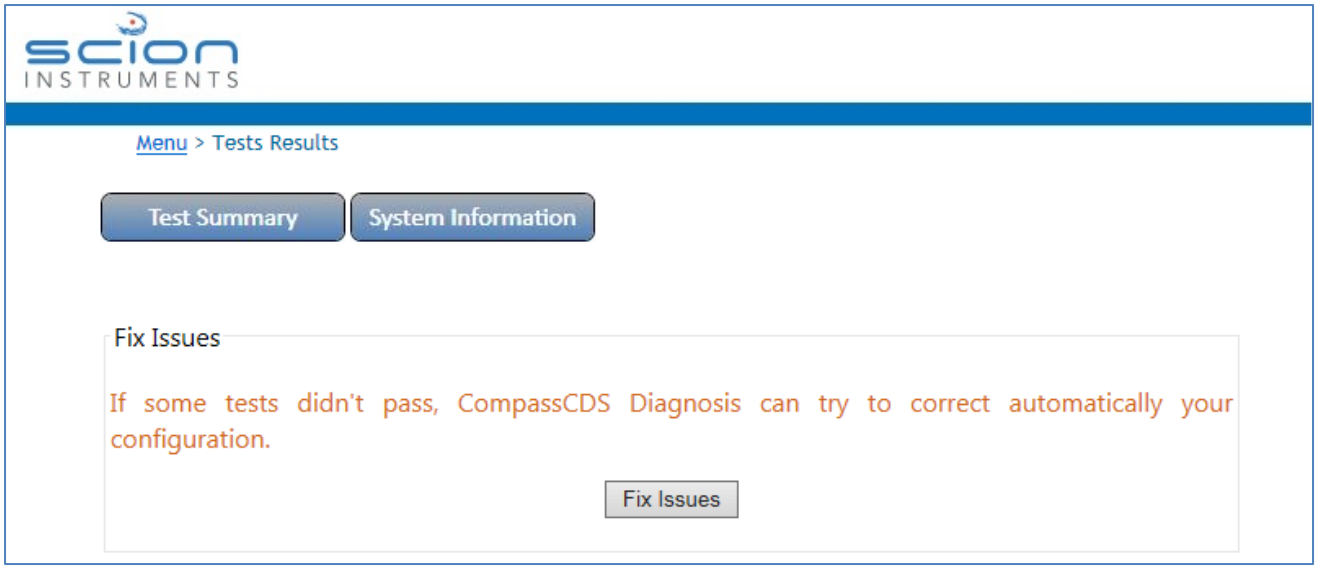
9. Confirm from the top menu in Configuration Manager >Options> Licenses that the serial number entered during the initial part of the install process is listed.
10. Enter any additional Station (computer) and System (instrument) license serial numbers by selecting the Add option.
11. CompassCDS instrument control drivers should now be installed on the CompassCDS client computer even if this this computer has not been designated as an acquisition & control server (which means that it can “own” and control GC and LC instruments) as these drivers are still required to view active acquisitions from CompassCDS client computers. A CompassCDS client software installation flow diagram (see below) indicates the way the instrument control drivers should be installed. To install the CompassCDS instrument control drivers, select the Drivers and Manuals menu option from the CompassCDS install CD and then select the appropriate driver set to install. Enter the appropriate serial number when prompted and let the installation complete.
12. Check that Internet Explorer Active Scripting is enabled (Go to Internet Explorer, Tools, Internet Options, Security, Internet, Custom Level, Active Scripting – Enable).
13. Once the driver software installation has completed, select the Tools and Documentation option from the CompassCDS CD and run the CompassCDS Diagnostics Tool. This tool will install an UltiPro web server as part of the CompassCDS Diagnostics Tool setup.
14. Run the CompassCDS DCOM Tool from the desktop icon and click on the CompassCDS Installation Analysis option. Click on Go and Fix Issues. Close this window.
15. The CompassCDS client software is now installed and this procedure should be repeated for all additional CompassCDS client computers.


CompassCDS Client Software Installation Flow Diagram
Start
Install CompassCDS Server Core Software
Will Scion 400 Series GC's be used?
Yes
No
Install CompassCDS 400 Series GC Control Driver
Will Varian 3800\3900 Series GC's be used?
Yes
No
Install CompassCDS 3800 or 3900 Series GC Control Driver
Will Agilent 7890 6890 5890 Series GC's be used?
Yes
No
Install CompassCDS Agilent 7890\6890\5890 Series GC Control Driver
Will CombiPal or Valco Stream Selector valve be used?
Yes
No
Install CompassCDS CombiPAL or CompassCDS Valco Valve Driver.
Will 800\850 MIB A/D Interface be used?
Yes
No
Install CompassCDS 800 MIB Control Driver.
Will NI 9219 A/D Interface be used?
Yes
Install NI Max Software & CompassCDS NI918x Control Driver.
Install & run CompassCDS Diagnostics (DCOM) Tool
End

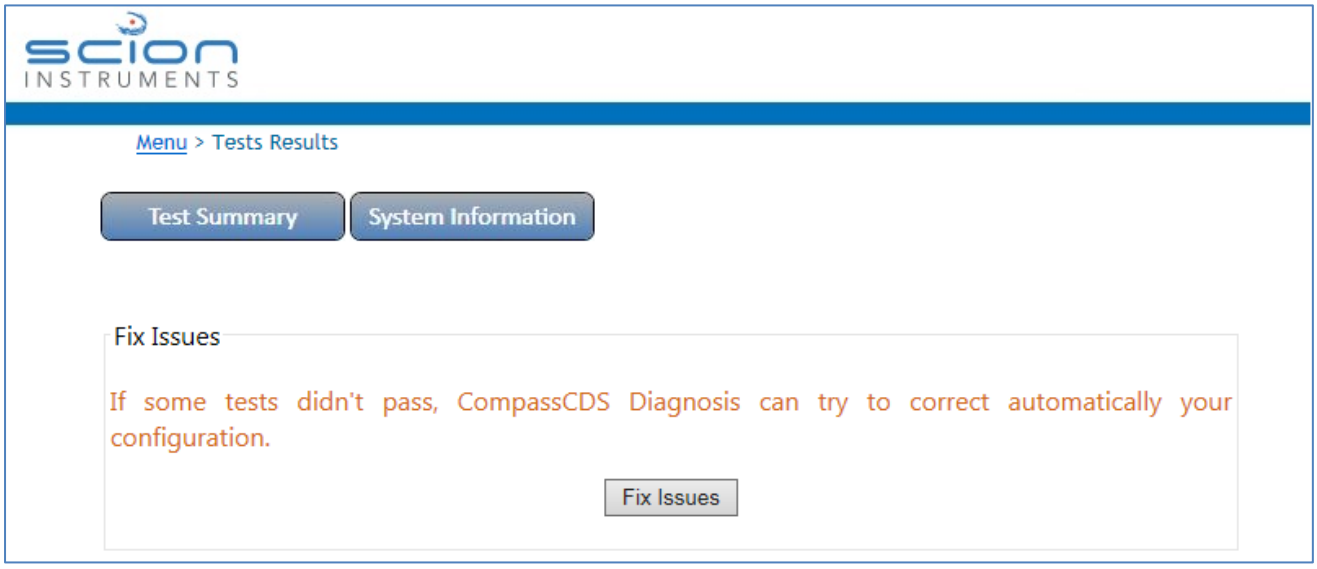
CompassCDS DCOM and Folder Permission Setting Tool

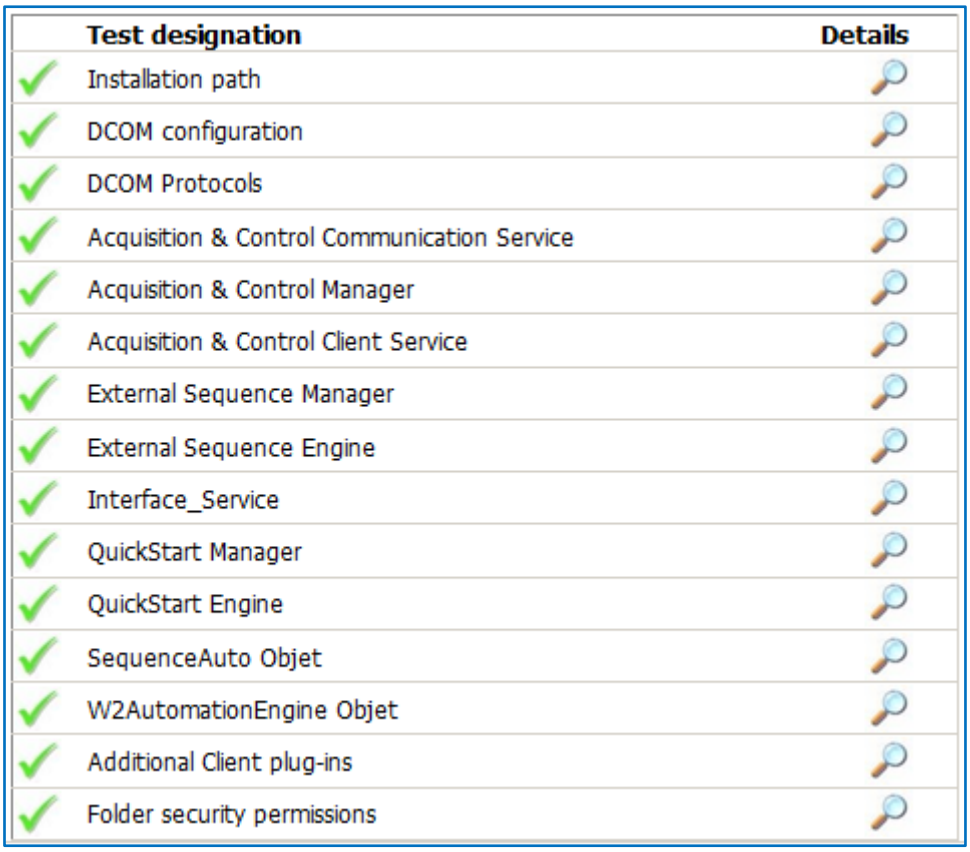
After installing CompassCDS as a networked client server system, it is necessary to set several DCOM and folder permissions on the CompassCDS main server and all the CompassCDS client computers for CompassCDS to be able to control instruments and functional properly. If CompassCDS has been installed as a standalone workstation, it is not necessary to set any DCOM permissions.

An automated software tool has been developed for this purpose. The CompassCDS Diagnostics Tool should be installed and run on the CompassCDS main server and all CompassCDS client computers. This tool is available on the CompassCDS CD in the Tools and Utilities section. This application requires that Windows .Net 3.5 which can also be accessed from the Tools and Utilities section. Once the Diagnostics Tool has been installed, it can be accessed from a desktop icon.



	Test designation	Details
✓	Installation path	
✓	DCOM configuration	
✓	DCOM Protocols	
✗	Acquisition & Control Communication Service	
✓	Acquisition & Control Manager	
✗	Acquisition & Control Client Service	
✗	External Sequence Manager	
✓	External Sequence Engine	
✗	Interface_Service	
✓	QuickStart Manager	
✓	QuickStart Engine	
✗	SequenceAuto Objet	
✗	W2AutomationEngine Objet	
✗	Additional Client plug-ins	
✓	Folder security permissions	





NOTE: It is also possible to set all the DCOM and folder permissions manually if required. The manual DCOM permission setting procedures for Windows XP, Windows 7 and Windows 2003/2008 Server are described in Appendix 1.

CompassCDS Folder Access Permission Configuration

This section provides details about the permission settings associated with the following CompassCDS applications and folders:

NOTE: All of these permissions can be automatically set by installing and running the CompassCDS Diagnostics Tool described in the preceding section of this user guide.

To manually set these permissions, select the appropriate directory in the Windows Explorer, in the popup menu select ‘Properties’, then in the security tab, select the ‘Permissions’ option.

On CompassCDS Workstation and Main Server computers:

All the permissions can be RX except for the system TEMP directory (i.e., <CompassCDS>\Server\TEMP) that should have the RWXD permissions for the users/groups INTERACTIVE, SYSTEM, NETWORK, ANONYMOUS LOGON, DOMAIN USERS.

More precisely for the '****CompassCDS\SERVER' folder, the permissions settings are:

Directories or files	INTERACTIVE, SYSTEM, NETWORK, ANONYMOUS LOGON, DOMAIN USERS
*.EXE; *.DLL; *.CHM	RX
All other files	RWX
\TEMP; \DEVICES; \LOGS; \DATA_SHARED	Modify
\CFG	RW

For users who access this folder over network, permissions must be set in the folder share. Select the '****CompassCDS\SERVER' folder, in context menu select PROPERTIES, then the 'Sharing' tab. Click on the 'Permissions' button and add 'Everyone' in 'Full control' in the list.

On the Data Directory:

The data directories can have the following permission settings if you don't need to overwrite DATA files:

- Administrators Full control
- DOMAIN USERS RWL
- NETWORK RWL
- SYSTEM RWL
- INTERACTIVE RWL
- ANONYMOUS LOGON RWL

The data directories can have the following permission settings if you need to overwrite DATA files:

- Administrators Full control
- DOMAIN USERS RWLD
- NETWORK RWLD
- SYSTEM RWLD
- INTERACTIVE RWLD
- ANONYMOUS LOGON RWLD

With R=Read, W=Write, L=List Folder Contents, D=Delete, X=Execute

For users who access the 'DATA' folder over a network, permissions must be set in the folder share. Select the 'DATA' folder, in context menu select 'PROPERTIES', then the 'Sharing' tab. Click on the 'Permissions' button and add 'Everyone' with 'Full control' in the list.

On Printer:

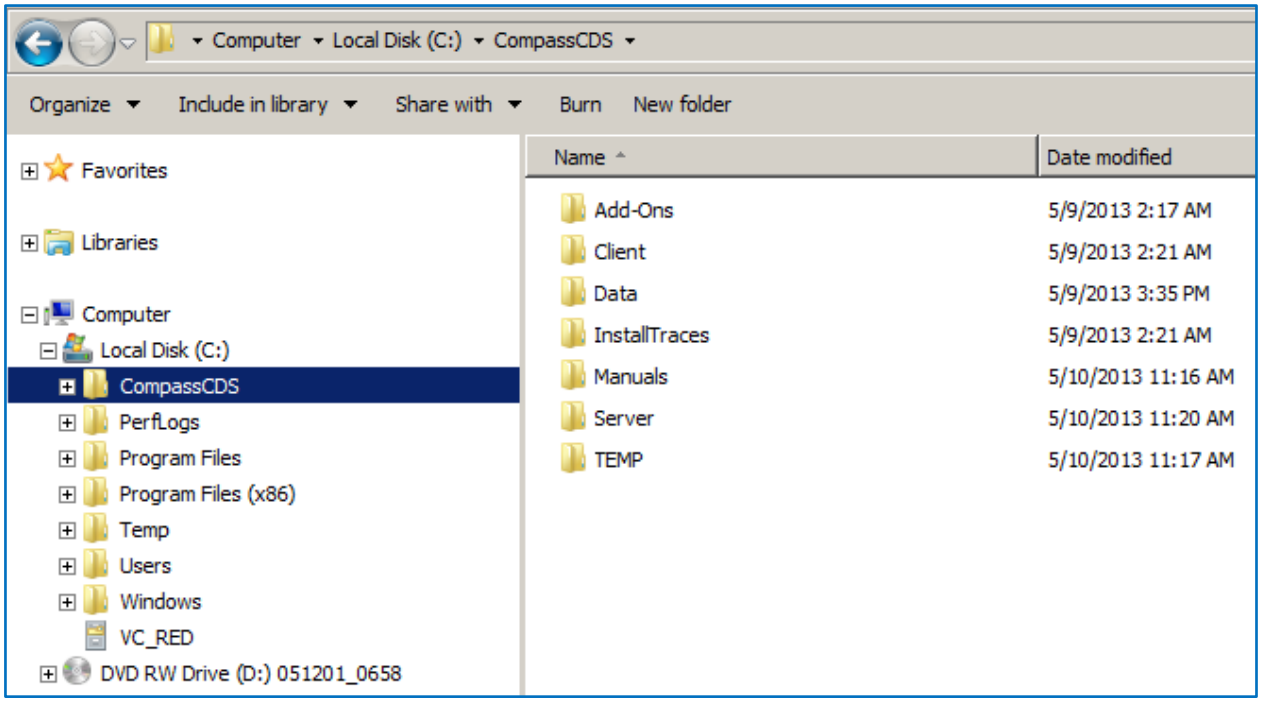
If report printing is done while running remote sequences, check that the following security permissions are present in the default printer properties.

- DOMAIN USERS: Print + Manage Printers + Manage Documents
- SYSTEM: Print + Manage Printers + Manage Documents
- INTERACTIVE: Print + Manage Printers + Manage Documents

CompassCDS File Type Descriptions

This section describes the content of the **CompassCDS** folder and subfolders created during the software installation and provides information on the main files.

The C:**CompassCDS** directory content is accessible from Windows Explorer:



The C:\CompassCDS**Add-Ons** folder contains the CompassCDS Plug-in option installations.

The C:\CompassCDS**InstallTraces** folder contains the complete log generated during a CompassCDS installation. However, if the install ends abruptly due to a problem on the computer, the logs will be located in the following directory:

“C:\DocumentsandSettings\Admin\LocalSettings\Temp\<sessionGUID>\<applicationGUID>” where:

<sessionGUID> differs every time an InstallShield session is launched, even if it is dealing with the same setup: for example, {7A9045C0-59AE-4B1D-AE8D-B4887E3AAA9B}

<applicationGUID> is constant for a product to install:

For CompassCDS: {490A76B0-59E3-11D7-9152-0050042084E2}

The C:\CompassCDS**Client** folder contains:

- CompassCDS.exe, the CompassCDS executable file.
- CompassCDS report editor.exe, the CompassCDS report manager executive file.
- W2AutoEngine.exe program used to print the reports of the sequences launched by the Remote Sequence Manager.
- The Remote sequence exe files: SeqClient.exe (the client), SequenceManager_Service.exe and SequenceEngine_Service.exe (the services exe files).
- All the DLLs related to the above programs.

The C:\CompassCDS**Data** folder contains chromatogram examples and some predefined report styles:

- *.METH: the method files.
- *.DATA: the chromatogram files.
- *.SEQU: the sequence files.
- *.REPL: the reprocessing list files.
- *.SUMR: the summary report files.
- *.STYL: the report style files.
- Other type of files:
    - ~$"Name of the file".*: lock files used to prevent the use of the same file by different users simultaneously.
    - CACHE_*.TXT: Caches used to speed up the display of the file lists in the open dialog of CompassCDS.
    - *.tmw: temporary files used when an acquisition is started.

The C:\CompassCDS**Manuals** folder contains all the user guides for CompassCDS.

The C:\CompassCDS**Server** folde**r** contains the following files and subfolders:

- configurationmanager.exe, the CompassCDS configuration and maintenance manager executable file.
- AcqClientSvr.exe, AcqManSvr.exe, AcqSystSvr.exe
- BOOTPSVR.exe

The **CFG** folder contains the configuration files for all systems configured on that computer (Only for the acquisitions servers).

The **CMDATA** folder contains all the Nexus database tables and parameters contained in the CompassCDS Configuration Manager application.

The **CSDATA** folder contains columns and solvent preferences.

The **Data shared** folder file contains:

- The FormatLib.dat: which is the file containing all the peak, group and chromatogram formats defined in CompassCDS.
- The .REPO files represent the repositories created in CompassCDS (variables creation).
- All the .REGC files which stores the users preferences
- Some .INI files which store the last Suffix ID used for each Group/Project/System set.

The **Devices** folder, contains the driver .dll files of all the configured systems.

The **IQOQ** folder contains all the documents and data files required to qualify CompassCDS installation and operation in regulated environments.

The **LOGS** folder contains .txt information, warning, error and other diagnostic log files that are produced when CompassCDS is operating, controlling instruments and acquiring data. These log files are automatically archived in the C:\CompassCDS\Server\Logs\LogArchives folder once these reach 2 GB in size and new logs are immediately generated.

The **TEMP** folder, contain a sub-directory for each acquisition system, and each directory stores some temporary files used for the acquisition (*.HTML files: store a HTML representation of the control method, this HTML file will be part of the DATA file at the end of the run (on CompassCDS server) and *.tmp: temporary files used when an acquisition is started (on acquisition server).

Windows Services

This section describes the different Windows services that are installed and used by CompassCDS: Acquisition & Control Manager.

(Exe path is \CompassCDS\Server\AcqManSvr.exe):

- This service is the “control tower” of the CompassCDS system.
- Stopping this service also stops all the running systems of the computer.

Acquisition & Control System – “Name of the system”

(Exe path is \CompassCDS\Server\ AcqSystSvr.exe):

- One service is declared for each CompassCDS systems.
- Stopping one of these services stops all activity on the system.

BOOTP Service

(Exe path is \CompassCDS\Server\bootpsvr.exe):

> This service is the main service which handles the BOOTP devices that require an IP address to be dynamically assigned from a BootP server. As most modern instruments have statically assignable IP addresses and very few devices still require this service, it is installed but is turned off (disabled) by default in the Windows Services and needs to be enabled when it is required for use on a particular acquisition and control server.

NexusDB_Server

(Exe path is \CompassCDS\Server\CM DATA\nxserver.exe):

- It is MANDATORY to leave this service running all the time.
- This is the main service which manages access rights for the users, the status of the CompassCDS systems.

External Sequence Manager

(Exe path is \CompassCDS\Client\ SequenceManager_Service.exe):

- This service is the control tower of all sequence engine services running on the computer.

External Sequence Engine – “Name of the system”

(Exe path is \CompassCDS\Client\ SequenceEngine_Service.exe):

- One of these services is declared for each CompassCDS systems.
- It handles the remote sequence launched from the remote sequence client.

Routine CompassCDS System Maintenance

The recommended maintenance: As the files generated are quite small and numerous, use a disk defragmentation tool.

Once a month, delete all (except the one of the current day):

- *.tmw in the data directories.
- Delete all files in the \CompassCDS\SERVER\TEMP directory of the acquisition server.
- Delete all files in the \TEMP directories.

Recommended backup and recovery procedure for CompassCDS Workstation and Main Server Installations

CompassCDS Backup Procedure

Folders and files that need to be backed up for later use, should a re-installation of the CompassCDS software be required, include the following:

C:\CompassCDS\Server\CFG

The CFG folder contains the configuration information of all the chromatographic systems listed in Configuration Manager. This folder only needs to be backed up if the CompassCDS computer has been designated an acquisition server and this folder contains one or more .CFG files.

C:\CompassCDS\Server\CMData
The CMData folder contains all the parameters contained in the CompassCDS configuration Manager. Before backing up the CMData folder, it is necessary to stop the NexusDB Server service which is located in Windows Services. Once the backup has been completed, this service should be restarted. All the .NX1 filed contained in this folder should be backed up.

C:\CompassCDS\Server\CSData
The CSData folder contains all the column and solvent database information and only needs to be backed up if either of these applications is being used.

C:\CompassCDS\Server\Data_Shared
The Data_Shared folder contains the following file types that require backup:

- The .REPO files that represent the custom variable repositories created in CompassCDS
- All the .REGC files that store user preferences
- Certain .INI files that store the last Suffix ID used for each Group/Project/System set.

C:\CompassCDS\Data (or any other folder\mapped drive in\on which CompassCDS .DATA, .METH, .SEQU, .REPL, .CALB, .SUMR and .STYL files are being stored).

CompassCDS Recovery/Restore Procedure

If re-installation of CompassCDS becomes necessary, the existing CompassCDS software installation should be uninstalled using the Windows Add/Remove or Uninstal. Once the uninstall has completed the computer should be rebooted and then the existing C:\CompassCDS folder (or equivalent path) should be deleted.

A new CompassCDS installation should then be initiated either as a standalone workstation or CompassCDS main server and it is essential that the installation folder path be exactly the same as the path from the previous install. At least one reboot of the computer will be required during this installation. Once the install has completed, stop the NexusDB Server service in the as described previously and replace the following files with those from the backup:

1. Replace all .CFG files in the newly created C:\CompassCDS\Server\CFG folder with those from the backed up C:\CompassCDS\Server\CFG folder.
2. Replace all .NX1 files in the newly created C:\CompassCDS\Server\CMData folder with those from the backed up C:\CompassCDS\Server\CMData folder
3. Replace all .NX1 and other files in the newly created C:\CompassCDS\Server\CSData folder with those from the backed up C:\CompassCDS\Server\CSData folder.

4. Replace all .REPO, .REGC and .INI files in the newly created C:\CompassCDS\Server\Data_Shared folder with those from the backed up C:\CompassCDS\Server\Data_Shared folder.
5. Copy all the .DATA, .METH, .SEQU, .REPL, .CALB, .SUMR, and .STYL files from the backed up **C:\CompassCDS\Data** (or any other folder\mapped drive) into the newly created C:\CompassCDS\Data (or equivalent) folder.

The NexusDB Server service can now be restarted and it should be possible to log into CompassCDS and Configuration Manager using any of the usernames and passwords from the previous instance of CompassCDS.

CompassCDS Troubleshooting Tips

This section describes several known errors observed after installing CompassCDS and ways to avoid them.

Networking

Network spanning trees can, on rare occasions, affect CompassCDS operation (causing Remote Sequence hangs). If this occurs, simply disabling this network feature should resolve the issue.

CompassCDS installation fails if more than one network card is activated (error “Lhotse failed to initialize, code -13” during the installation). Only one NIC card must be enabled to install CompassCDS correctly.

101 Station Systems Error Caused by corruption of Compass licensing during the installation.

Folder permissions error after installing a C/S Permissions for folder directories not set correctly.

Frequent disconnects of instruments – Anti Virus applications or Firewalls.

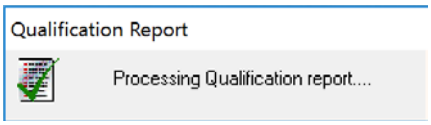
CompassCDS Software Installation Qualification

It is possible to validate the installation of the CompassCDS Workstation, Server, Client or any Instrument Control driver software. The validation program is installed automatically during a CompassCDS installation.

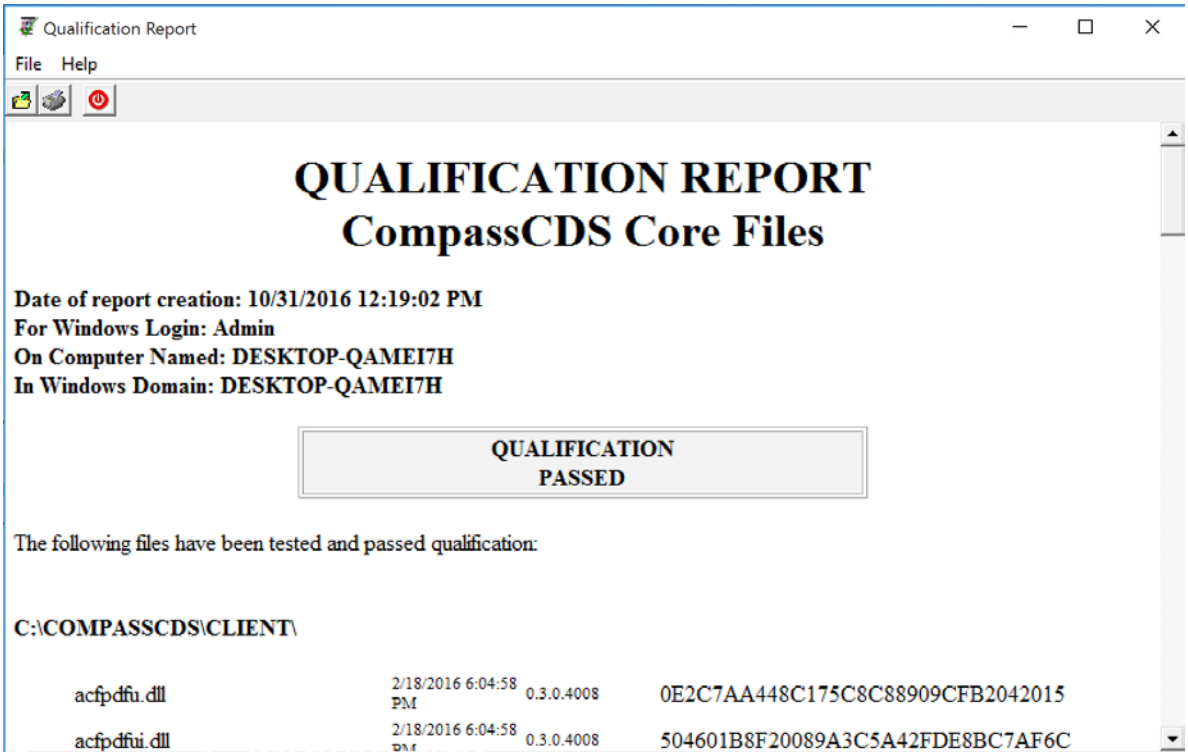
After CompassCDS installation, Validation Reports for the core and all instrument control drivers can be found either in a specific subfolder belonging to the CompassCDS menu (Windows 7) or as part of the CompassCDS folder (Windows 10) in the Windows Start Menu:

Select the software installation you want to validate (CompassCDS Core or Driver).

The validation program will launch. Wait until the following screen disappears.



The read-only validation report is then displayed on the screen.

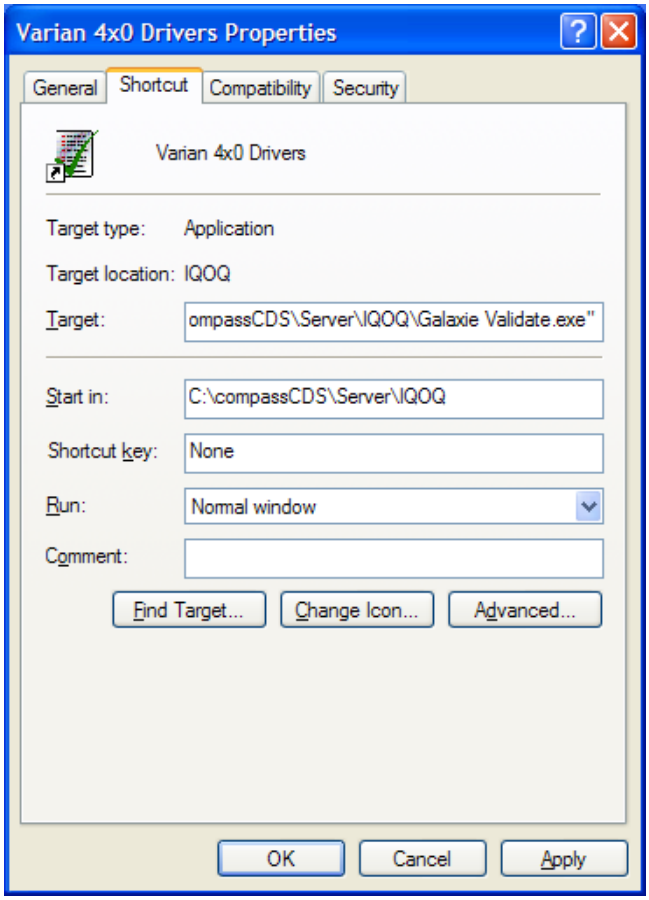


These reports can be printed and are automatically saved in <CompassCDS>\Server\IQOQ\.

After installing non-Scion Instruments drivers on CompassCDS (drivers from Agilent, Thermo, etc.) the installation validation of these drivers cannot be executed. This is caused by an invalid shortcut in the start menu. Execute the following steps in order to fix this problem:

1. Locate the shortcut to the validation report of the driver in the Windows start menu. It is possible that it is located under “GALAXIE (Chromatography)”.

2. Right-click on the shortcut and select Properties:



3. In the target edit field locate “Galaxie Validate.exe” and change it to “CompassCDS Validate.exe”.
4. Click OK.

CompassCDS Instrument Control Drivers

This section describes the principles and operation of the CompassCDS instrument control drivers.

Principles

Each CompassCDS controlled chromatographic system can comprise one or several modules.

For instance, a system controlling a Scion 456 GC with an 8400 autosampler will be composed of:

- Scion 456 GC only as the 8400 control is an integral part of the 456 GC control driver.

Whereas, if a Scion 456 GC was being configured for manual injection only, the system would be composed of:

Scion 456 GC control driver

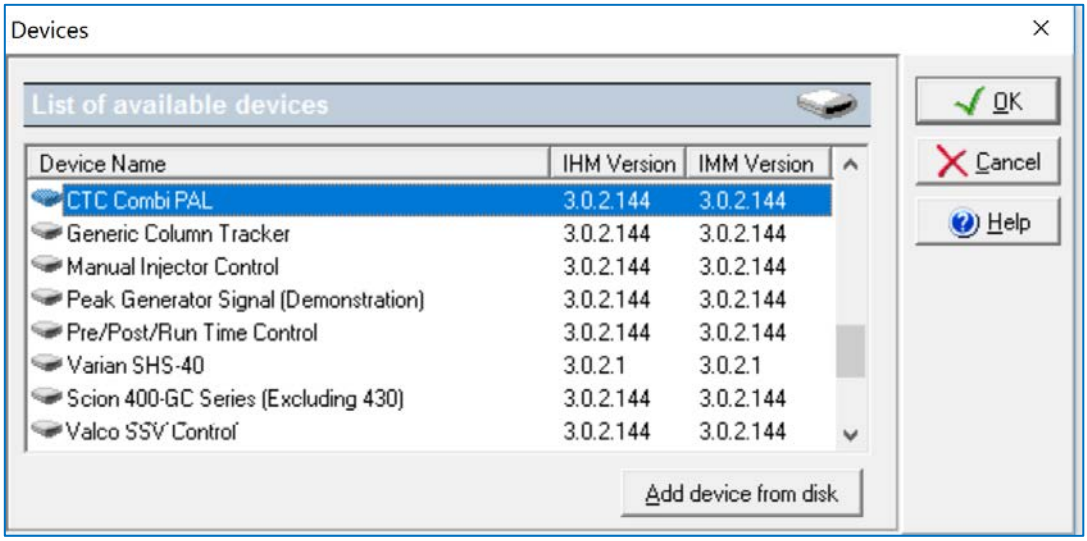
Manual Injector control driver

Each CompassCDS control driver comprises two elements:

- The *_IMM.dll file which contains all the code required to control the device.
- The *_IHM.dll file which contains all the screens necessary to configure, build methods, and display the status of the device.

File Locations

In CompassCDS Configuration Manager (menu “Option | Devices…”), the screen displays all the available modules for the system:



The control driver DLLs for all CompassCDS controlled are stored in the \CompassCDS\Server\Devices folder (both the *_IMM.dll and *_IHM.dll files

Instruments Control Driver Installation

Control drivers for the following CompassCDS controlled devices can be installed from the CompassCDS media:

- Scion 400 Series GC – Control of 456, 436, 450 and 430 with integrated 8400 & 8410 autosampler control
- Varian 3800 & 3900 GC – Control of legacy Varian 3800 and 3900 with integrated 8400 & 8410 autosampler control
- CTC Combi PAL
- Scion SHS-40 Headspace
- Valco SSV
- National Instruments 9219 Analog to Digital, 9481 Relay & 9401 TTL I/O
- Varian STAR 800/850 MIB
- Agilent 5890 GC – Control of HP 5890 including 7673 headspace Autosampler
- Agilent 6890 GC – Control of HP 6890 & 6850 GC including 7683 and 7693 autosampler and 7694 headspace autosampler
- Agilent 7890 GC – Control of Agilent 7890 A/B GC including 7693 autosampler and 7694 headspace Autosampler
- Agilent 1260 LC – Control of HP 1100, Agilent 1200, and Agilent 1260 LC including Infinity I, II series LC modules

In addition to this list, several control drivers are automatically installed during an initial CompassCDS installation. These include:

- Manual Injector
- Pre-Post-Run Control
- Column tracker

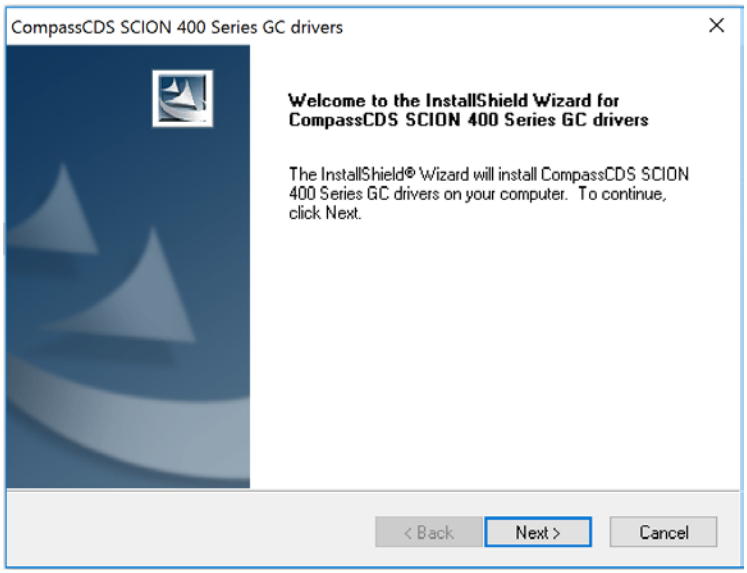
Scion Instruments 400 Series GC

Installing the Driver Software

The CompassCDS core software must already be installed before installing the control driver software.

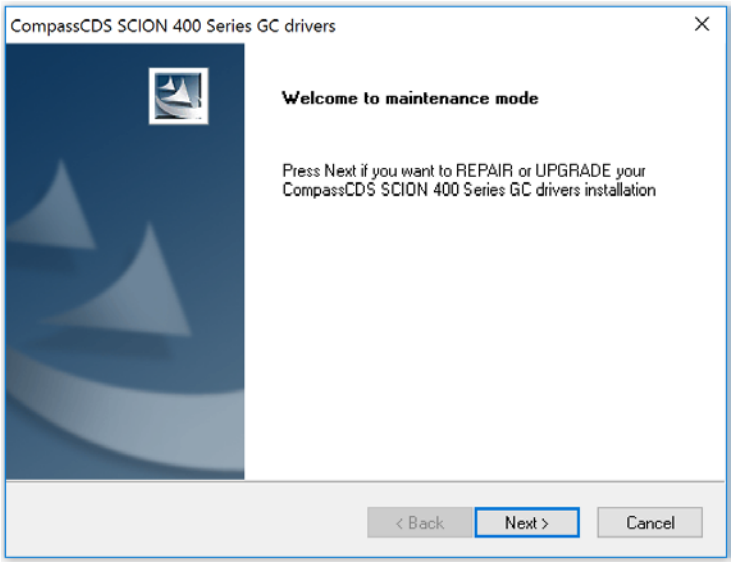
Users must have local administrator rights to install this driver, or domain administrator rights if the computer is part of a Windows domain.

Insert the CompassCDS DVD into the CD/DVD drive, and the DVD browser will start automatically. If it does not, launch the browser by running ‘autorun.exe’ from the root directory of the DVD, or execute control driver installation directly from the Driver subdirectory by running the ‘setup.exe’ file located the instrument subfolder.


CompassCDS SCION 400 Series GC drivers
Welcome to the InstallShield Wizard for CompassCDS SCION 400 Series GC drivers
The InstallShield® Wizard will install CompassCDS SCION 400 Series GC drivers on your computer. To continue, click Next.
< Back
Next >
Cancel

Click on the ‘Next’ button, read and accept the ‘License Agreement’ and enter the control driver ‘Serial Number’ in the corresponding field. The serial number is provided on the control driver serial number card and is different from the CompassCDS core software serial number. Note that all serial numbers are case sensitive.

Press the ‘Next’ button and click on ‘Finish’ at the end of the installation. If you want to reinstall or upgrade control drivers, it is necessary to run the setup once again.


CompassCDS SCION 400 Series GC drivers
Welcome to maintenance mode
Press Next if you want to REPAIR or UPGRADE your CompassCDS SCION 400 Series GC drivers installation
< Back
Next >
Cancel

Press ‘Next’ and the control drivers will be automatically reinstalled or upgraded. Click on ‘Finish’ at the end of the installation to exit the maintenance mode.

To see which drivers are installed select ‘Options’ from the CompassCDS Configuration Manager main menu and select ‘Devices’. The button

can be used for manually installing beta or pre-release drivers. Use this button only when directed by a technical support representative.

BOOTP Server Configuration

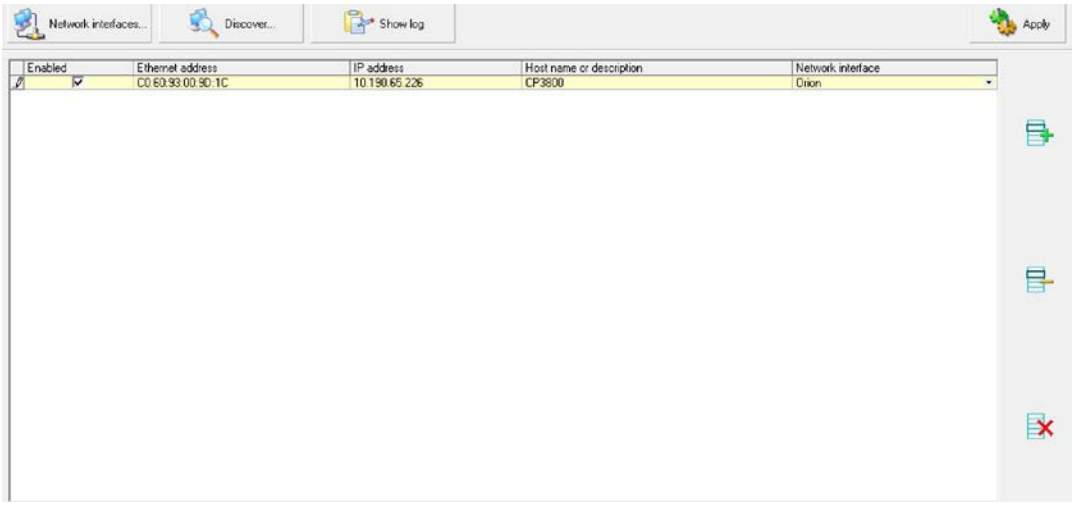
A BOOTP Server is used to send IP addresses to TCP/IP devices.

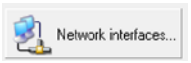
The BOOTP Server lists Ethernet addresses along with the IP addresses that are to be assigned to the corresponding devices.

1. Enable the installed BOOTP Service from Within Windows Services by right clicking on the BOOTPservice and selecting Properties and then Startup Type – Automatic,

Start the BOOTP Server Configuration tool in the CompassCDS Configuration Manager by clicking on the icon

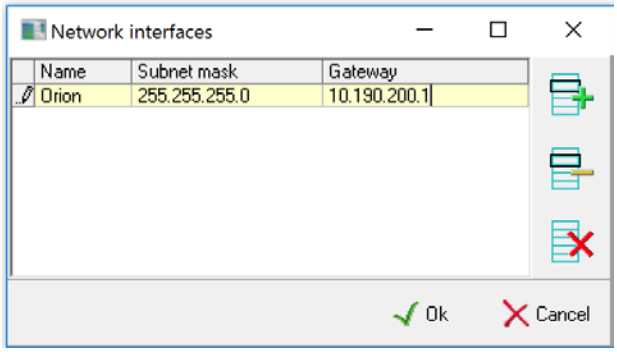
in the Tools section or in the menu Options click on BOOTP configuration. The following screen appears:



Click the 

button to declare the parameters of the network where the instruments and the BOOTP server are located.

The following screen appears:



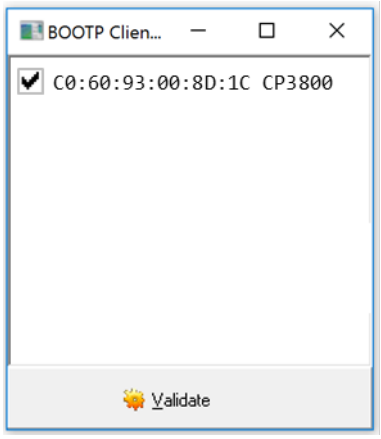
Enter a ‘Name’ for the network card, the ‘Subnet mask’ and ‘IP Gateway’ (optional) addresses.

More than one network card may be declared by clicking on . Selected lines can be deleted by clicking on . All the lines can be deleted by clicking on .

Click on the

button and the BOOTP server will enter discovery mode, during which will automatically find and list the MAC addresses of all the instruments which are broadcasting IP Address requests

The following screen appears:

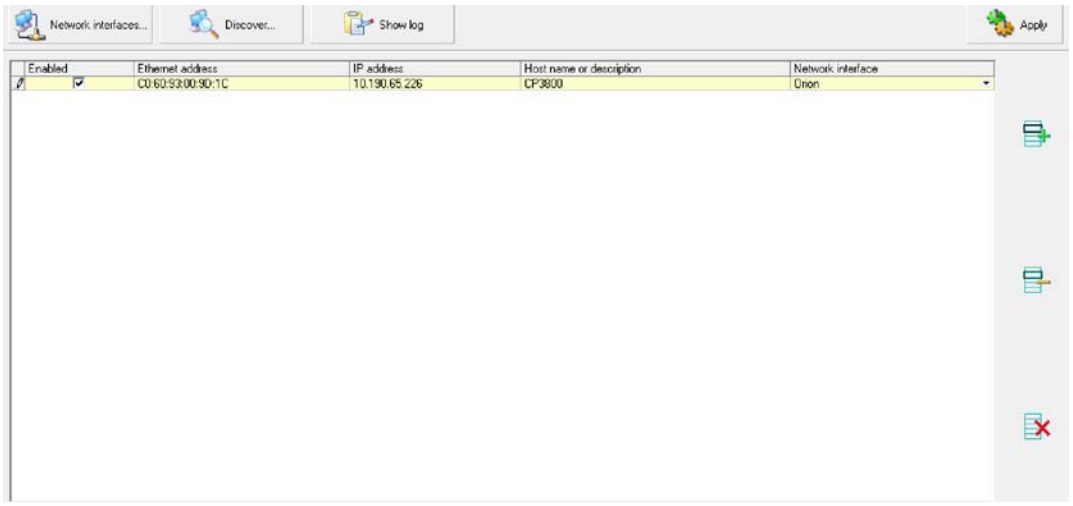


Note: If the required instruments are powered on, and their MAC addresses do not appear after a few minutes, ensure that the Windows Firewall and any anti-virus software installed on the computer is disabled as these will prevent BootP broadcasts from reaching the BootP server. It is also possible that Ethernet switches can sometimes prevent IP broadcasts from reaching the BOOTP Server and these should be reset (when possible).

Once the correct MAC address and been selected, click on the

Button.

The corresponding instruments are then listed in the main screen:



Complete the mandatory fields by entering the IP address assigned to the selected instrument, its Name or Description and the Network interface previously declared and assigned to the instrument.

By clicking on the button, an instrument can be declared manually.

In this case, enter the Ethernet address which allows the computer to locate the instrument and to upgrade the IP address without reloading it every time it changes.

Complete the other fields (IP address, Name, etc.) as described above.

Delete the selected line by clicking on or to clear all lines in the table.

Click on the

button to see details about the requests sent by the instruments, the answers of the BOOTP server, or the errors.

When all the instruments have been correctly declared, click on ‘OK’, or ‘Apply’ to validate.

NOTE: The BOOTP server provided by CompassCDS is installed during the installation of the CompassCDS software but is turned off by default and must be enabled for use in Windows Services.

System Configuration

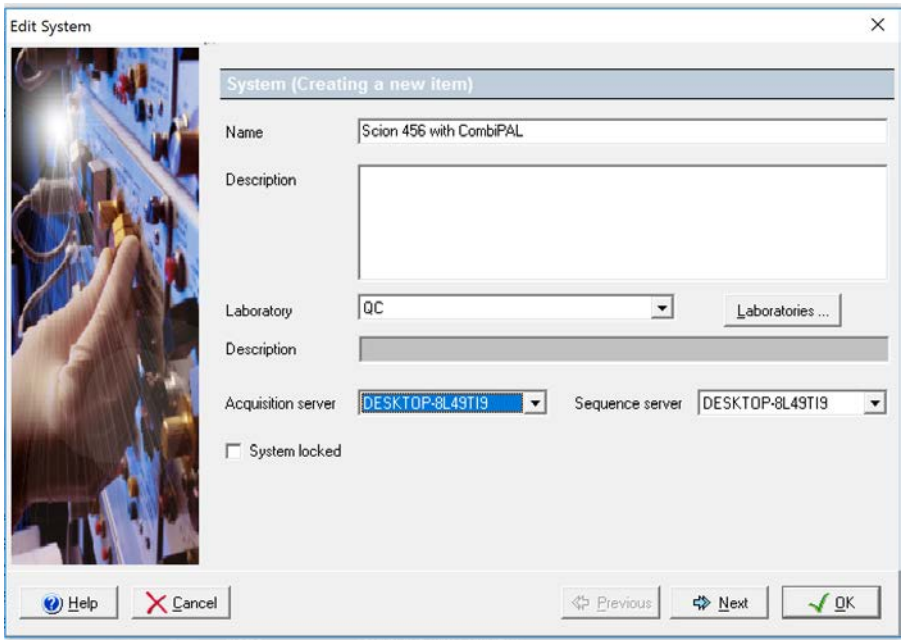
Scion Instruments GC Systems

Example: Combi PAL Autosampler, 456 GC connected via an Ethernet switch

To configure the system shown above, complete the following steps:

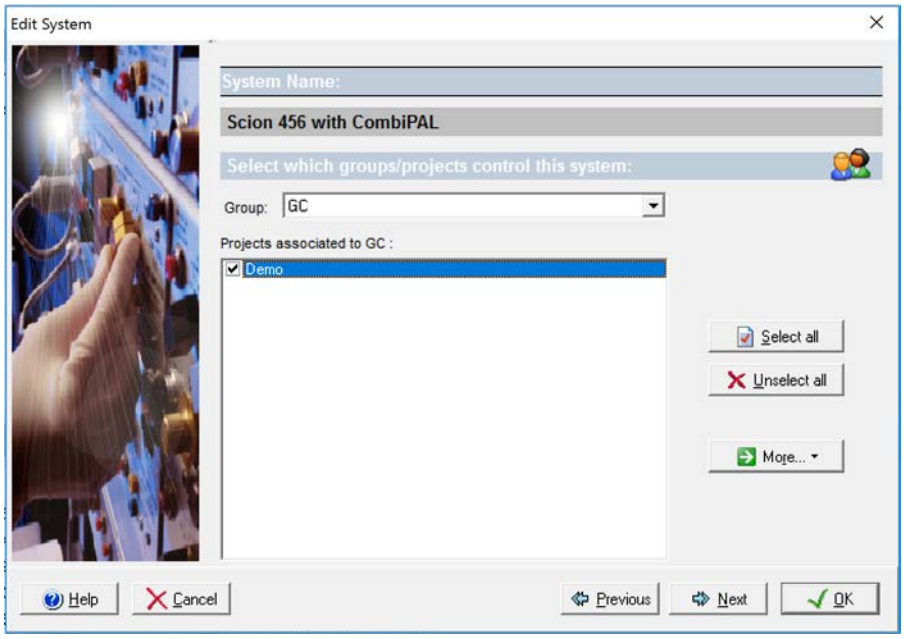
Setup the BOOTP or DHCP server if the 456 GC does not have a fixed IP address (recommended), or set it directly on the GC.

In the CompassCDS Configuration Manager, create a new system. The following screen will be displayed.

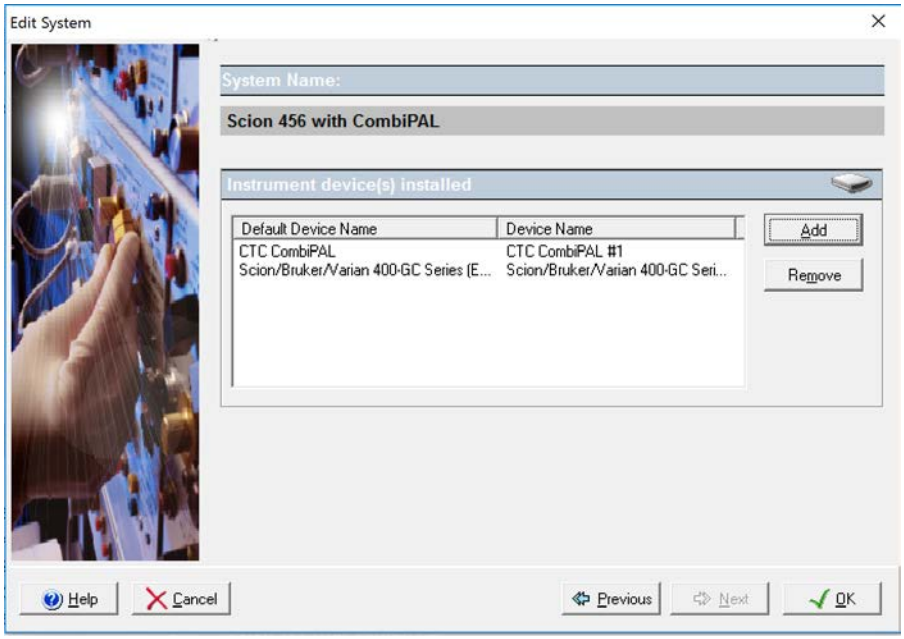


Enter the ‘Name’ of the system, select in the ‘Acquisition server’ and ‘Sequence server’ the name of the acquisition server and the name of the sequence server. Then click on ‘Next’.

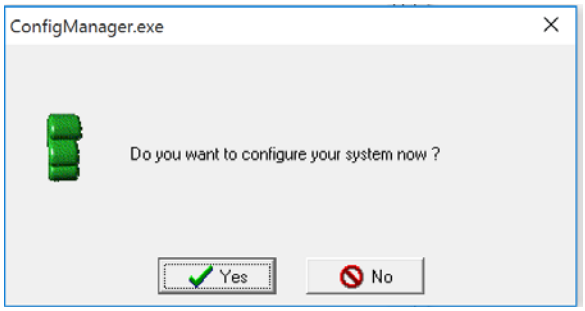
In the following screen, associate one or more project(s) to the system and click on ‘Next’. If no groups/projects are defined, click on ‘Next’.



To configure that system, two device drivers must be installed; the Combi PAL (which represents the injector object) and the 456 GC (which represents the channel object). Click on the ‘Add’ button, select in the ‘Device Type’ list CTC Combi PAL and press ‘OK’. Repeat the same operation but this time select in the ‘Device Type’ list Scion/Bruker/Varian 400 GC-Series Gas Chromatograph. When these two devices have been added, the screen should appear as below.



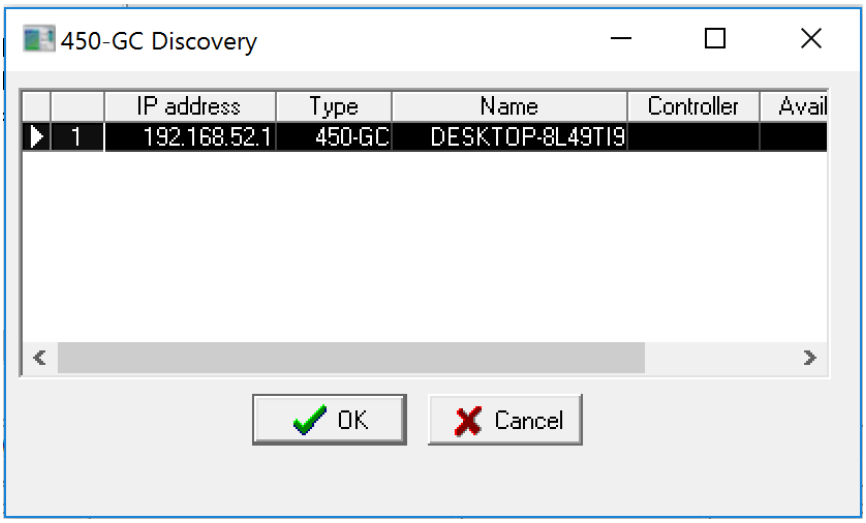
Click on the OK button and answer ‘Yes’ to the question: "Do you want to configure your system now?"



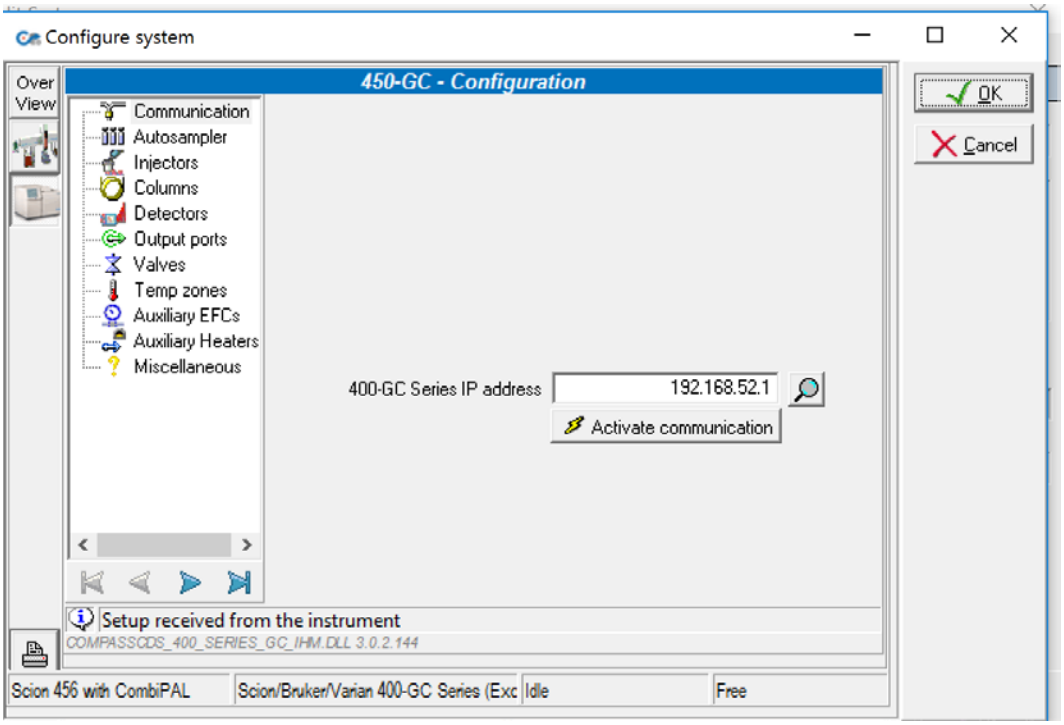
In the next screen, click on the ‘Combi PAL’ icon and click on the ‘Communication’ tab. Select ‘Local serial port’ and the corresponding com port number. Press the ‘Activate Communication’ button.

If the communication is successful, the following progress bar should appear on the screen.

Press the ‘456’ icon and click on the ‘Communication’ tab. Type the GC IP address in the ‘GC name or address’ field or click on the magnifying glass to search all the 456 connected to the network.



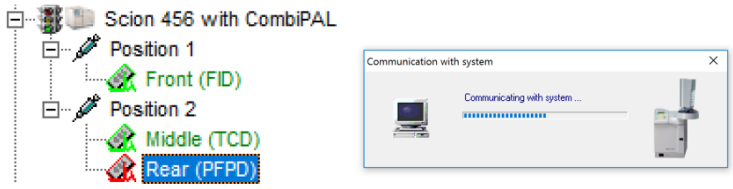
Select the correct GC and click on ‘OK’. Then press the ‘Activate communication’ button. If the communication is successful a message should appear at the bottom of the configuration screen "Setup received from the instrument" (see below).



NOTE: It is advisable to use fixed or static IP addresses to communicate with instrument instead of BOOTP whenever possible.

Click on the ‘OK’ button to finish the configuration of the system.

Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



For other instrument setup and configuration please refer to the specific instrument control driver user guide.

Checklist for CompassCDS Installation

The following list guides you into CompassCDS installation. It lists the pre-installation requirements (firewall, antivirus, etc.) that are required to successfully install the Scion Instruments CompassCDS Software, as well as the actions to perform after the installation to set correct configuration.

Before launching CompassCDS installation:

- ☐ Ensure the computer/server in part of a Domain and/or the installer has sufficient rights to access all the folder options.
- ☐ Allow only one network card to be enabled during the installation.
- ☐ De-activate all Windows and Third Party Firewalls.
- ☐ De-activate the Automatic Windows updates to avoid the automatic reboots during a sequence, or a single acquisition.
- ☐ Set “Windows only” for the DEP (Data Execution Prevention) for computer/server under Windows 7, 10, and Windows 2008 R2, 2012 R2, and 2016 server
- ☐ De-activate all Power saving options (Hard drive, Wait, Disable Hibernate)
- ☐ De-activate the network card power saving option.
- ☐ De-activate the Anti-Virus software just before the launch of the CompassCDS installation, and during the CompassCDS Installation.
- ☐ Install CompassCDS

After CompassCDS Installation:

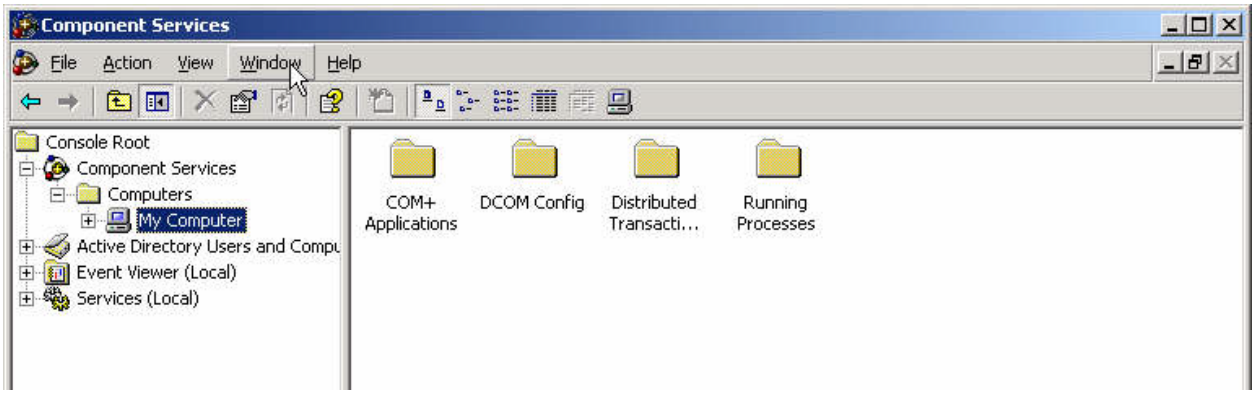
- ☐ Set the Directory rights according to the Installation Guide. Use the CompassCDS Diagnostic Tool.
- ☐ Activate the Anti-virus software, but exclude the CompassCDS folder from being scanned.
- ☐ Complete all the settings that need to be done according to the Installation Guide.
- ☐ Reconnect/Enable the other network cards if present.
- ☐ Reboot the computer.

Appendix 1

DCOM Configuration under Windows 2003 Server

Connect under the Windows session as a local administrator in the ***START*** menu, in the ***RUN*** part enter ***DCOMCNFG***.

The following window is opened:



Right click on *My Computer* and select Properties. A window is opened with six tabs:

General

Options

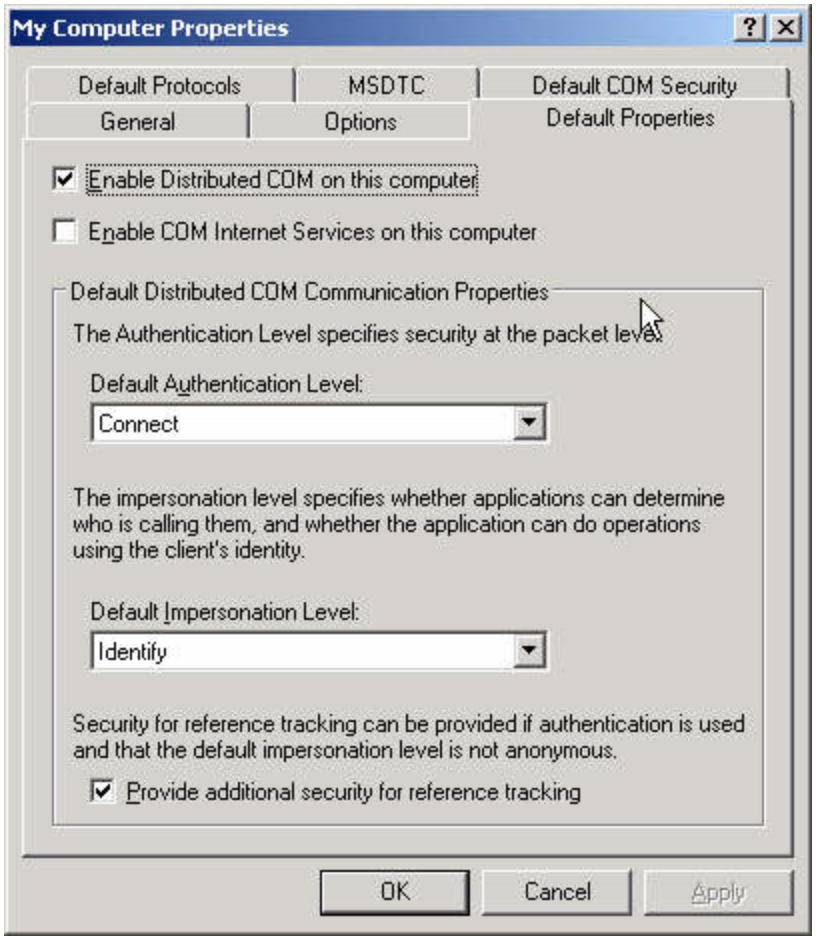
Default Properties

Default COM Security

MSDTC

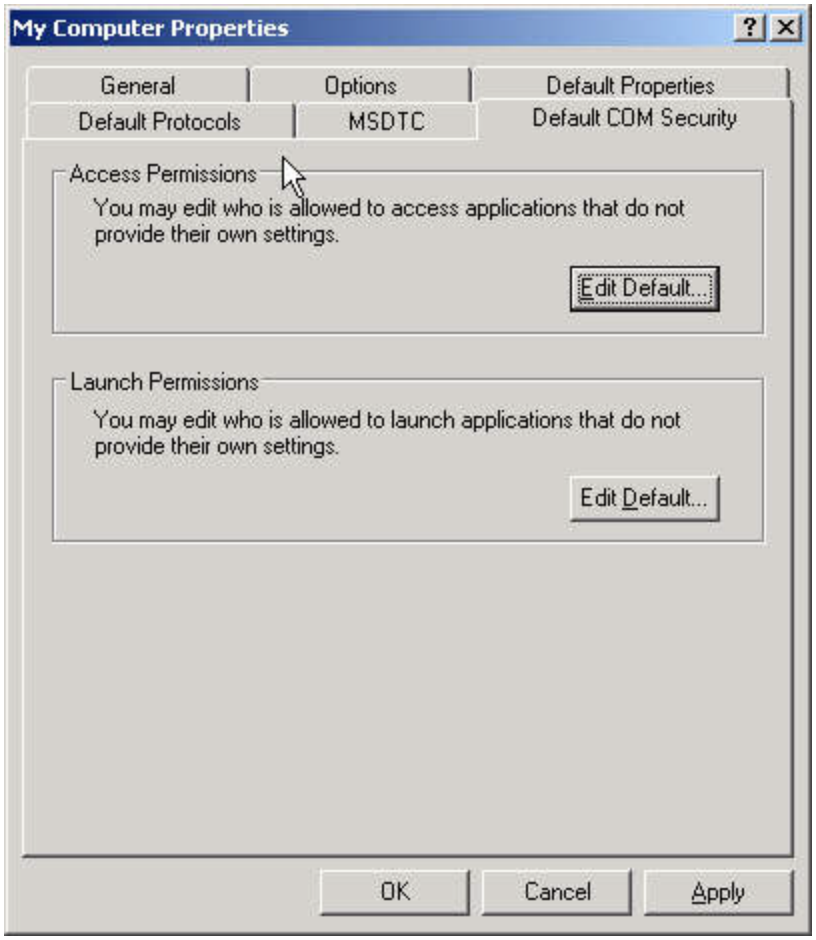
Default Protocols

Select the **Default Properties** tab. The following screen is displayed:


My Computer Properties
Default Protocols
MSDTC
Default COM Security
General
Options
Default Properties
Enable Distributed COM on this computer
Enable COM Internet Services on this computer
Default Distributed COM Communication Properties
The Authentication Level specifies security at the packet level.
Default Authentication Level:
Connect
The impersonation level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.
Default Impersonation Level:
Identify
Security for reference tracking can be provided if authentication is used and that the default impersonation level is not anonymous.
Provide additional security for reference tracking
OK
Cancel
Apply

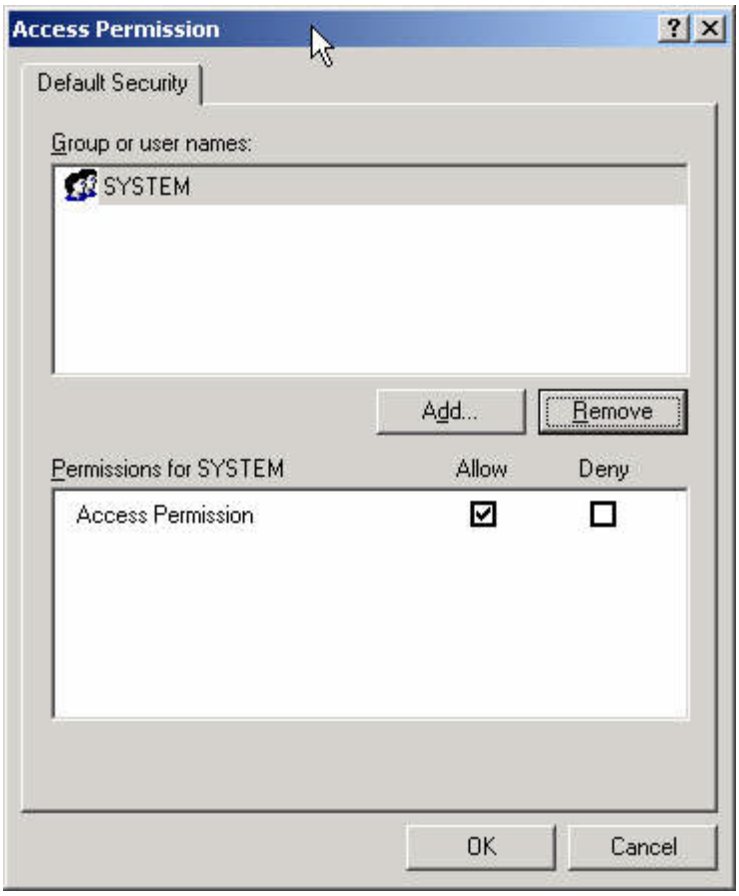
Make sure that the check box Provide additional security for reference tracking is checked.

Select the **Default COM Security** tab. The following screen is displayed:

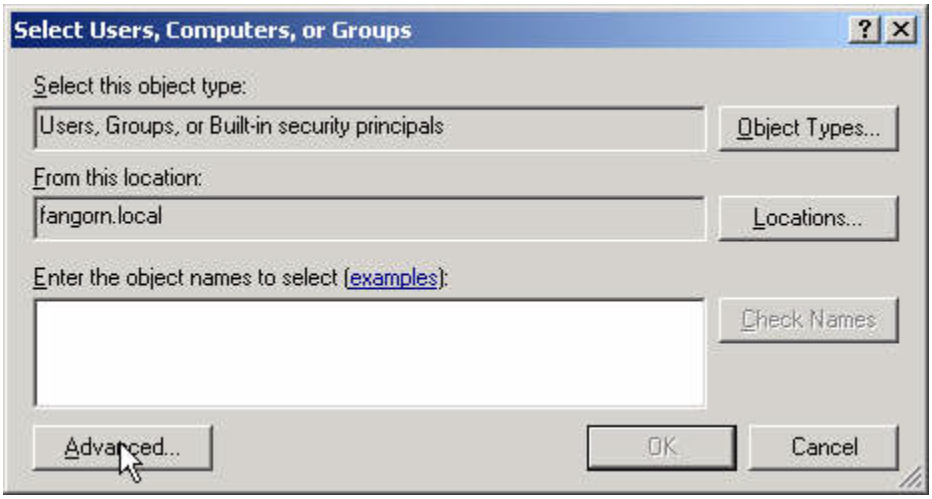


For the Access permission:

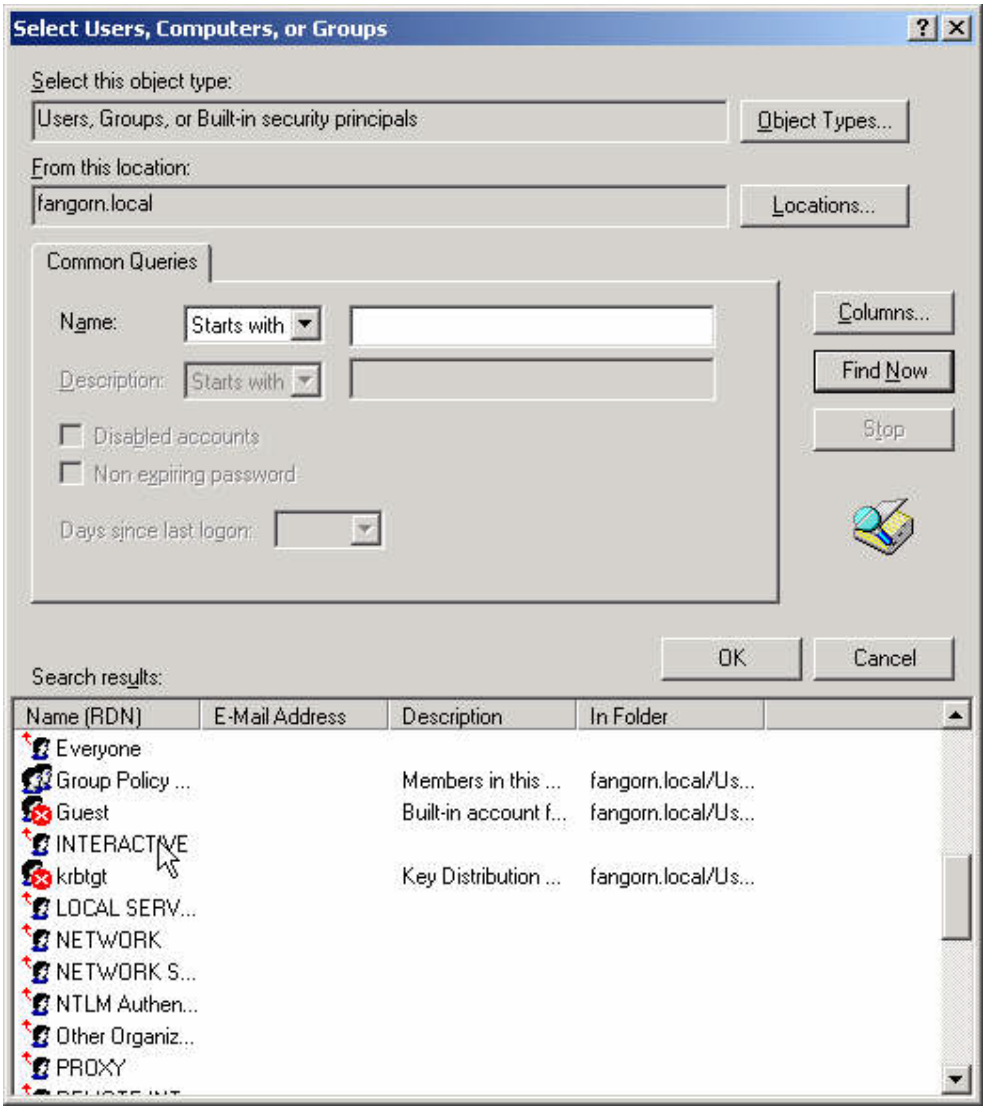
Click on the *Edit Default* button, to access the configuration windows (see below).



Click then on the *Add* button, the following window is displayed.

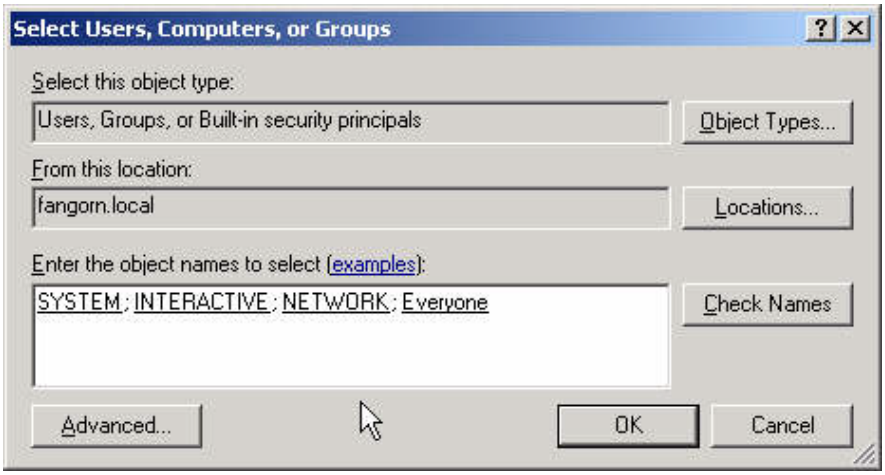


Click then on Advanced, the following window will then be displayed.

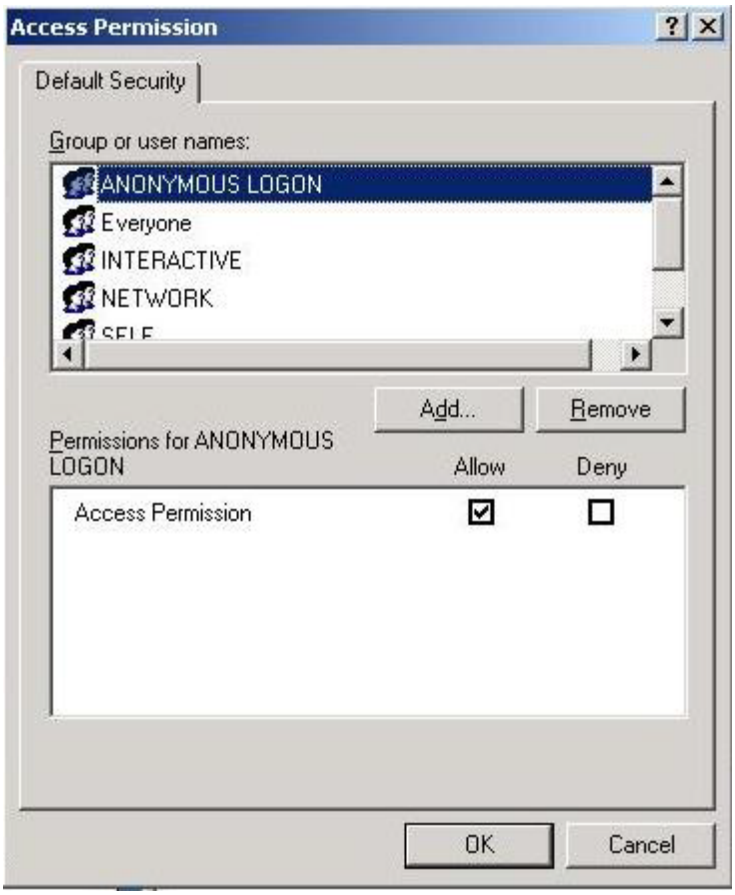


Select INTERACTIVE and press OK. Repeat the steps 3 to 5 to add *NETWORK; SYSTEM; EVERYONE.*

The following screen should then be displayed.



Click on *OK* and the Access Permissions should be configured as shown below.



Default Access permissions:

INTERACTIVE Allow Access

NETWORK Allow Access

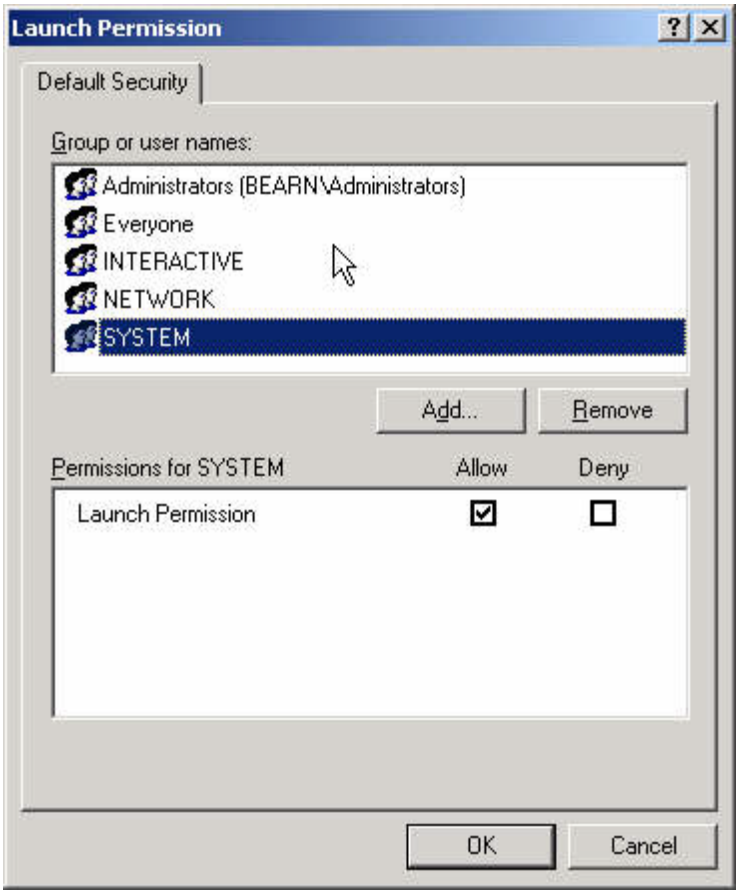
SYSTEM Allow Access

Everyone Allow Access

Anonymous LOGON Allow Access

For the Launch permission, do the same as for the Access Permission without the Anonymous Logon permission.

The Launch permission should be set as below.



Default Launch Permissions:

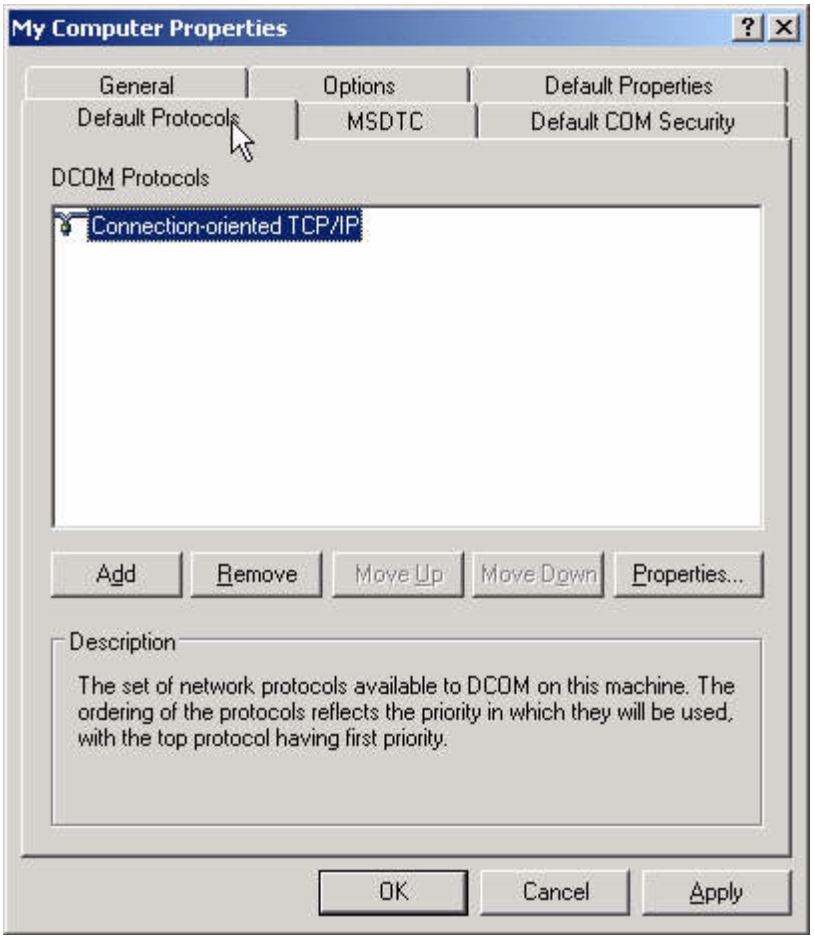
INTERACTIVE Allow Launch

NETWORK Allow Launch

SYSTEM Allow Launch

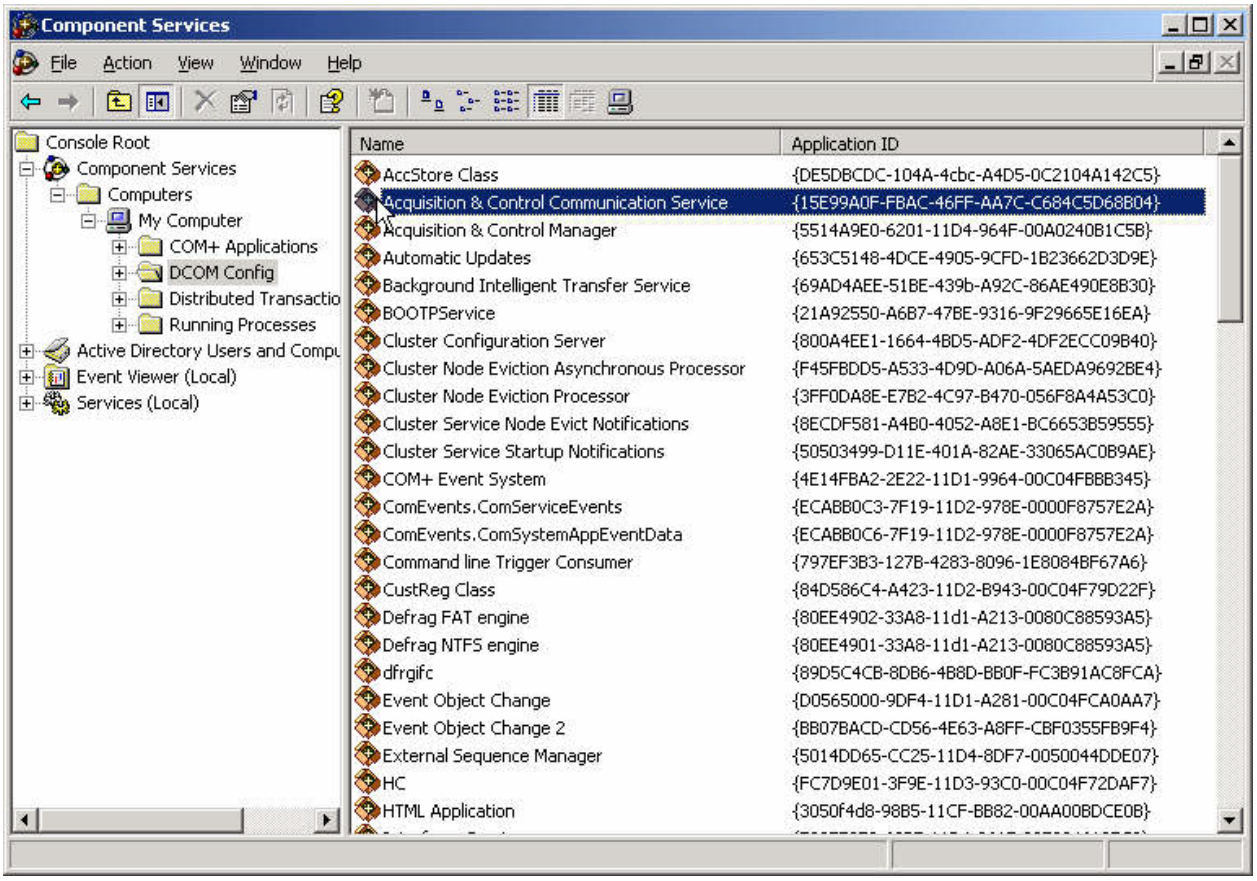
Everyone Allow Launch

Select the Default Protocols tab:



Select Connection-oriented TCP/IP and define it in the first position using the *Move up* button.

Close the Computer Properties and select *DCOM config* as in the following window.



For each of the following applications, configure the appropriate Permissions:

Acquisition & Control Communication Service

Acquisition & Control Manager

External Sequence manager

Interface Service

Quick Start Engine

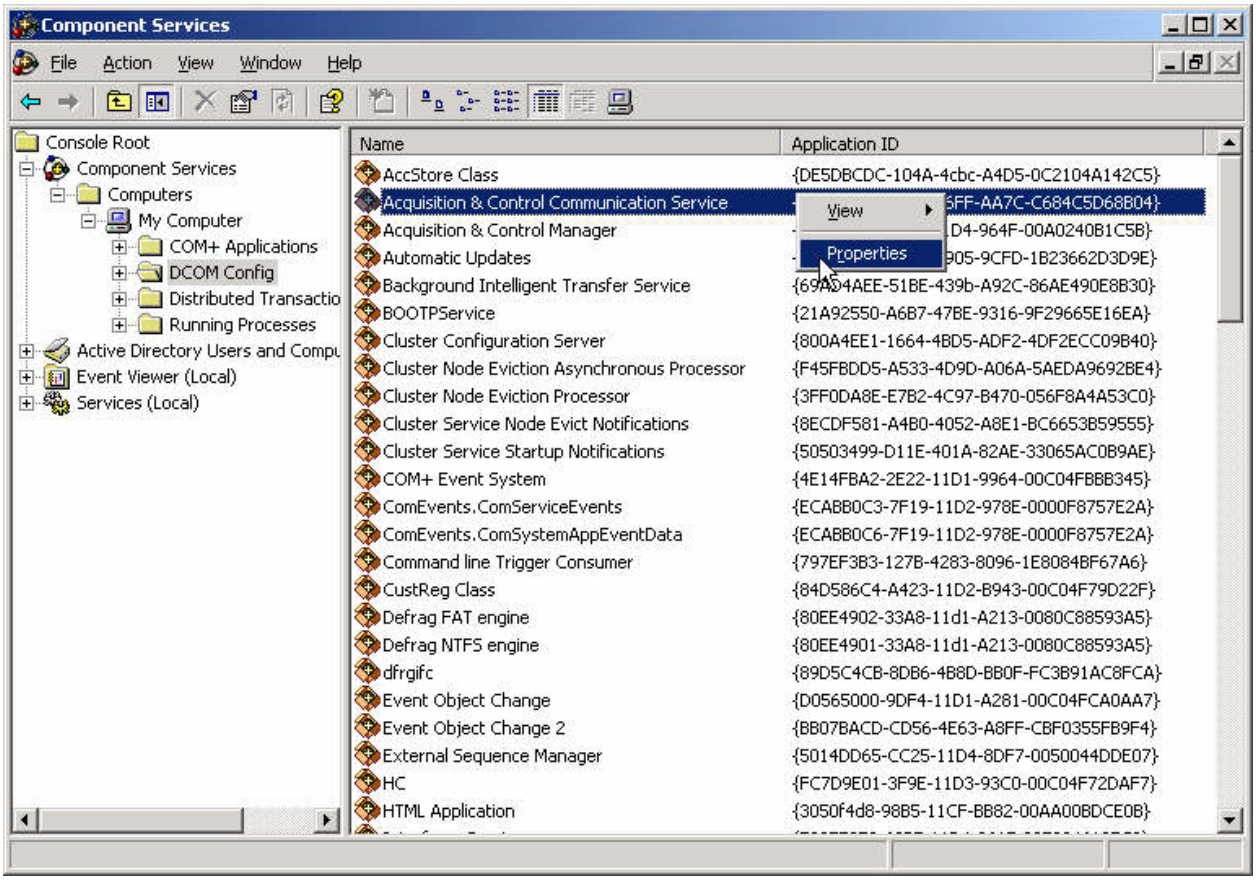
Quick Start Manager

Sequenceauto object or {38425FD5-F403-11D3-9246-0050044DDE07}

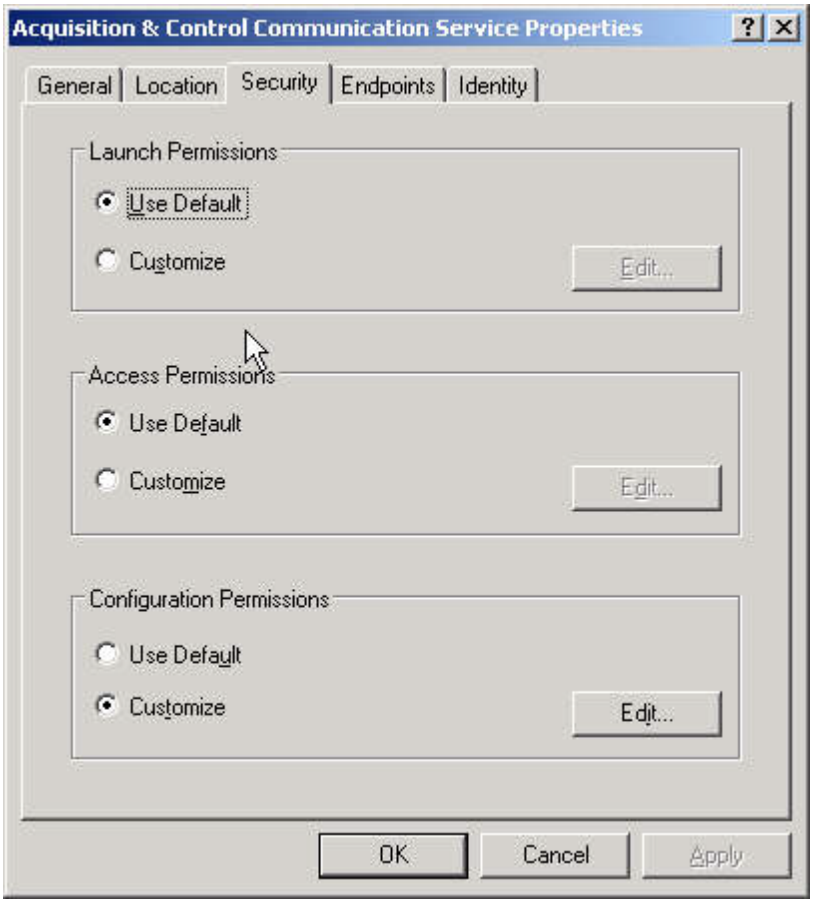
W2AutomationEngine object or {F1F76A40-9B57-49DCB7E2-92AF5039F4AC}

AcqManDiamirSide object or {4CDCE86D-C1CC-11D2-BEBD-00A0247B21AC}

Select each application properties with a right click as shown below.



In the opened window select the ***Security*** tab and select the *Default Permissions* for the first two types of permissions (Access and Launch).



Click on the *Apply* button to apply the modifications for each application.

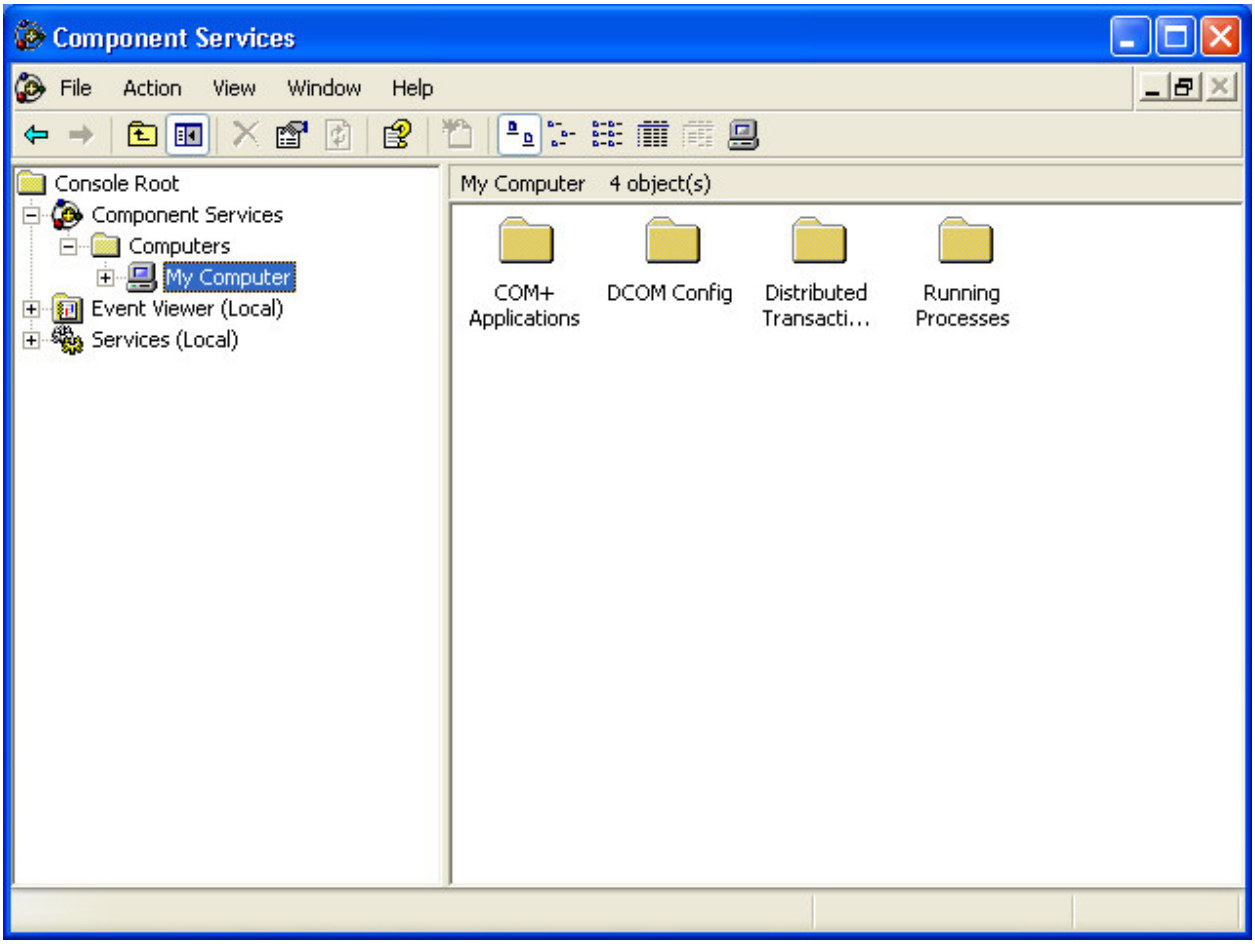
DCOM Configuration Under Windows XP SP2, Windows 2003

Server SP1 and Windows Vista (Enterprise & Business)

Please find below the procedure to configure DCOM under Windows XP SP2, Windows 2003 Server SP1 and Windows Vista.

Screenshots are made under Windows XP SP2 but they are the same under 2003 server SP1.

Connect under the Windows session as a local administrator in the ***START*** menu, in the ***RUN*** part enter ***DCOMCNFG***. The following window is opened:



1. Right click on *My Computer* and select Properties. A window is opened with 6 tabs:

   General

   Options

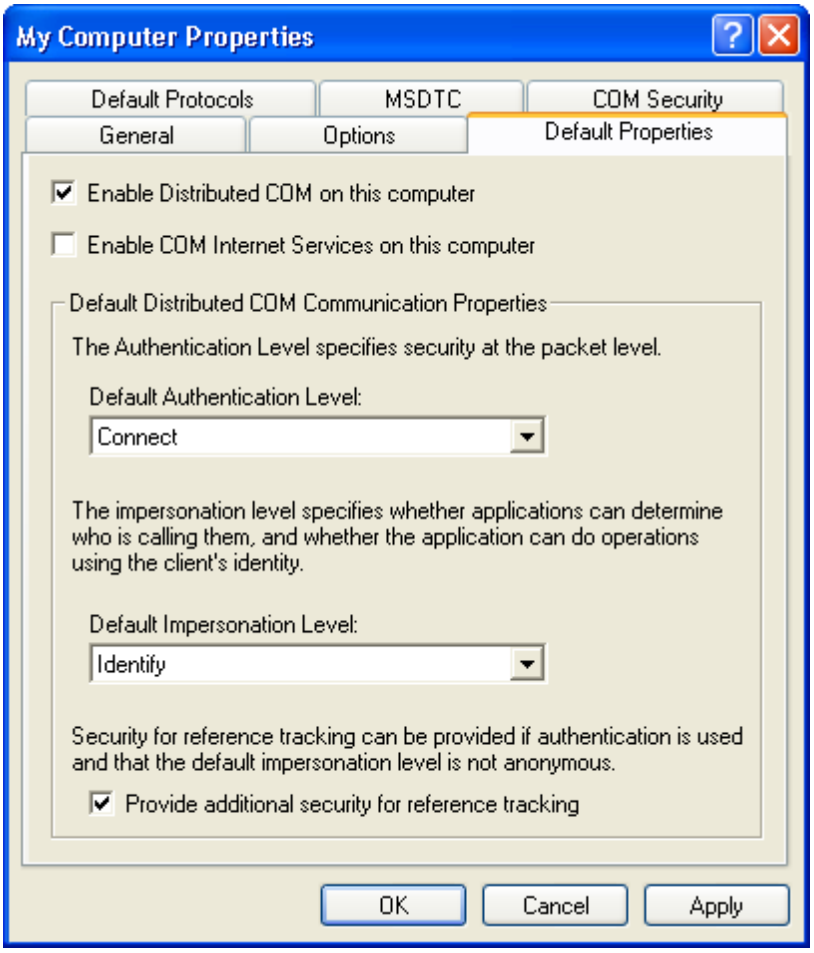
   Default Properties

   Default COM Security

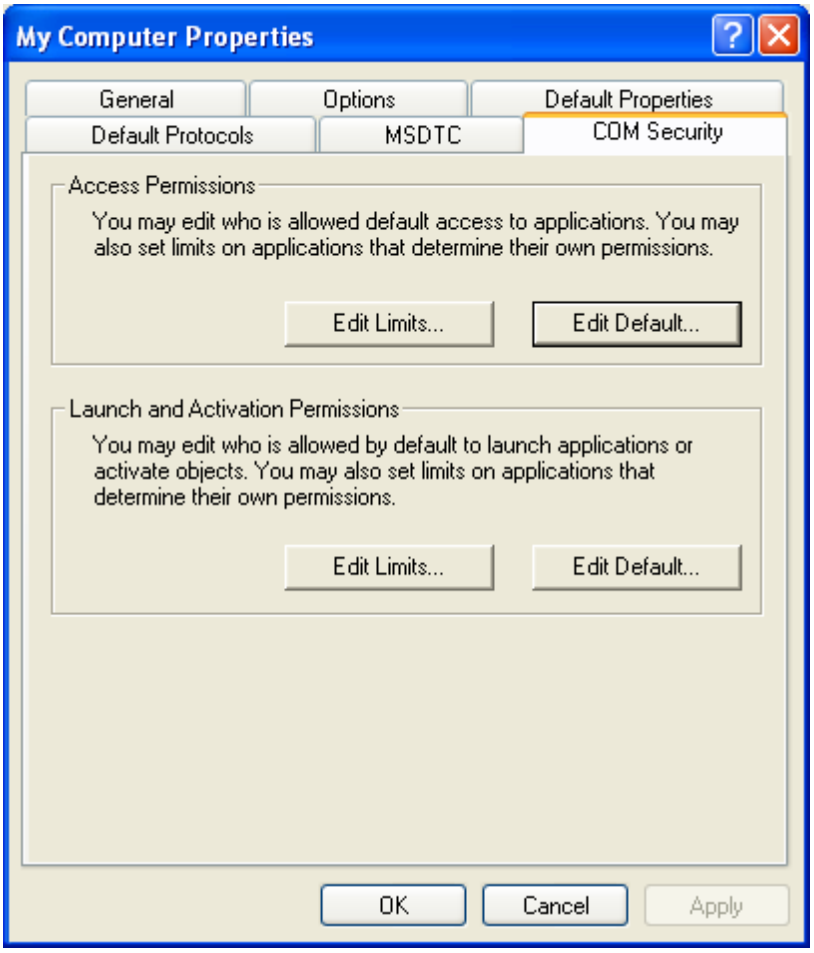
   MSDTC

   Default Protocols

Select the **Default Properties** tab. The following screen is displayed:

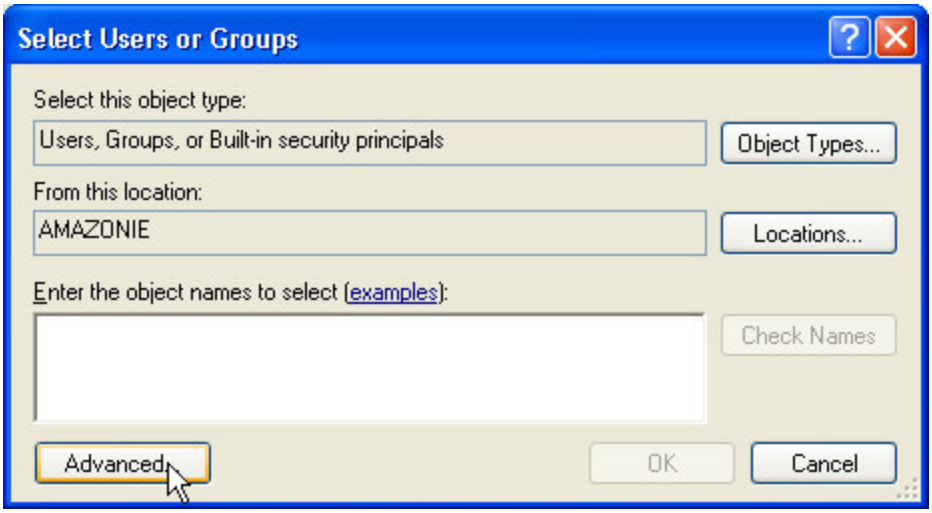

My Computer Properties
Default Protocols
MSDTC
COM Security
General
Options
Default Properties
Enable Distributed COM on this computer
Enable COM Internet Services on this computer
Default Distributed COM Communication Properties
The Authentication Level specifies security at the packet level.
Default Authentication Level:
Connect
The impersonation level specifies whether applications can determine who is calling them, and whether the application can do operations using the client's identity.
Default Impersonation Level:
Identify
Security for reference tracking can be provided if authentication is used and that the default impersonation level is not anonymous.
Provide additional security for reference tracking
OK
Cancel
Apply

Verify that *Enable Distributed COM on this computer* and *Provide additional security for reference tracking* boxes are checked. Select the **Default COM Security** tab. The following screen is displayed:

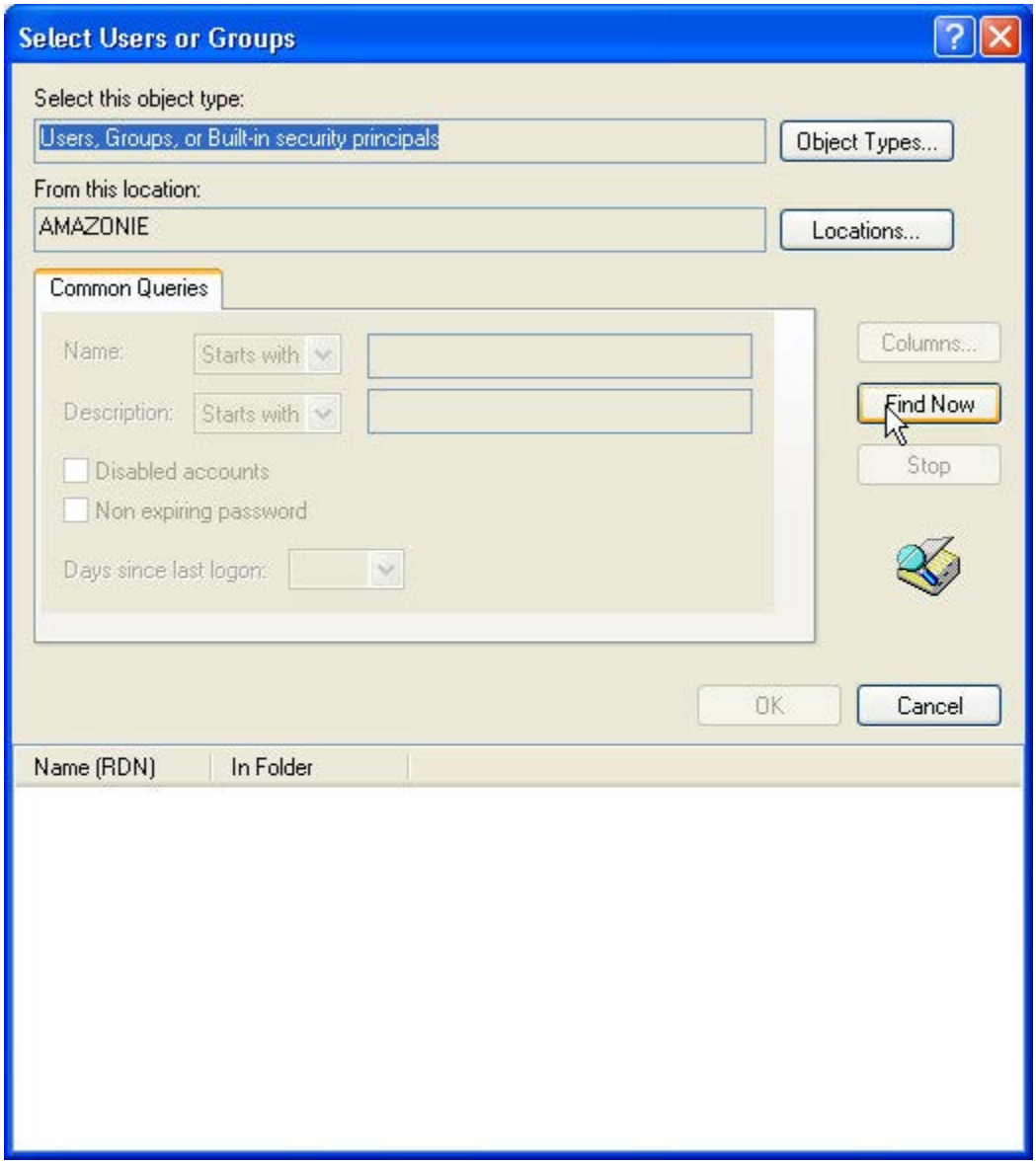

My Computer Properties
General
Options
Default Properties
Default Protocols
MSDTC
COM Security
Access Permissions
You may edit who is allowed default access to applications. You may also set limits on applications that determine their own permissions.
Edit Limits...
Edit Default...
Launch and Activation Permissions
You may edit who is allowed by default to launch applications or activate objects. You may also set limits on applications that determine their own permissions.
Edit Limits...
Edit Default...
OK
Cancel
Apply

For the Default Access permission,

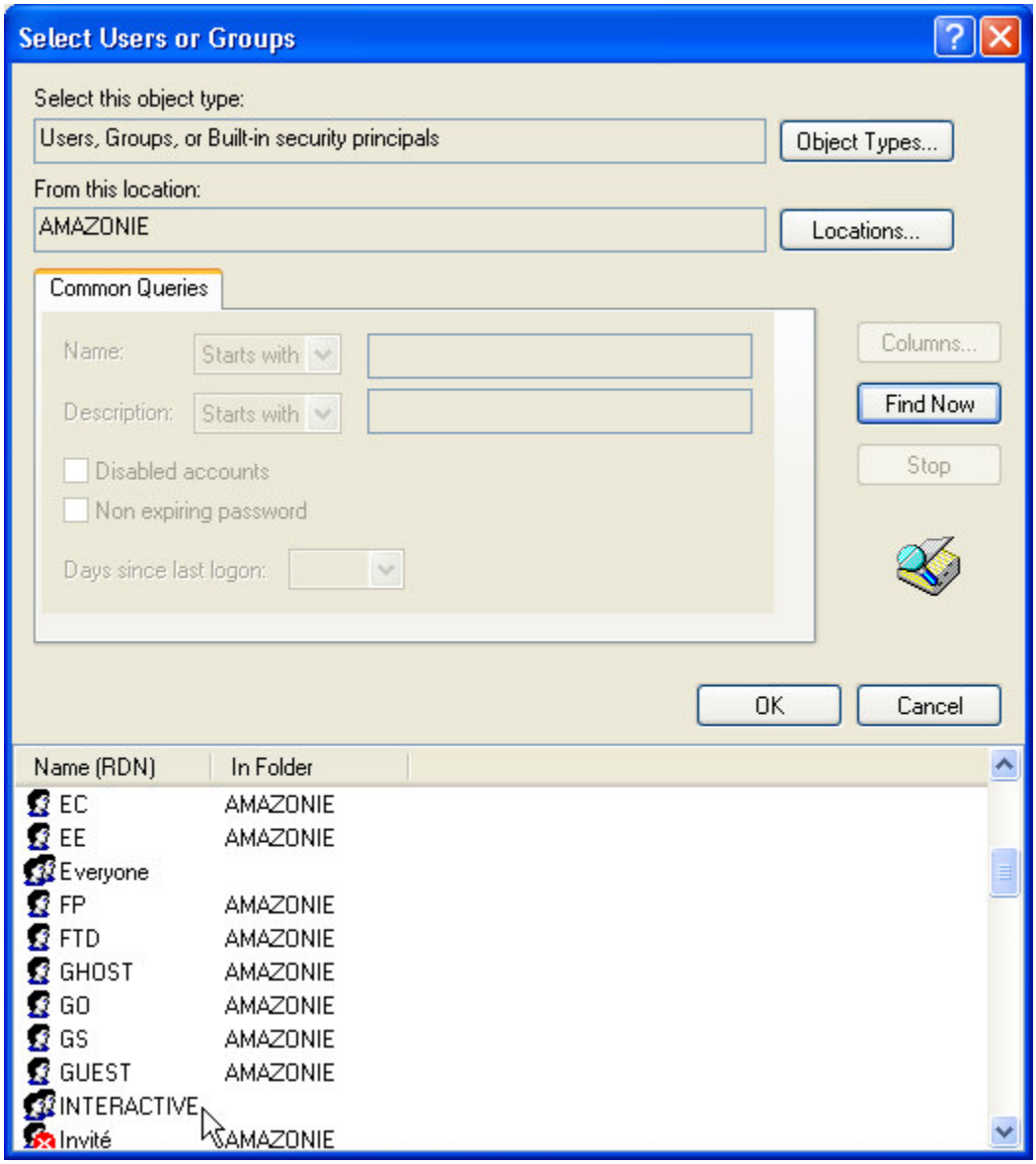
2. Click on the *Edit Default* button, to access the configuration windows.
3. Click then on the *Add* button, the following window is displayed.



4. Click on *Advanced,* the following window will be displayed.

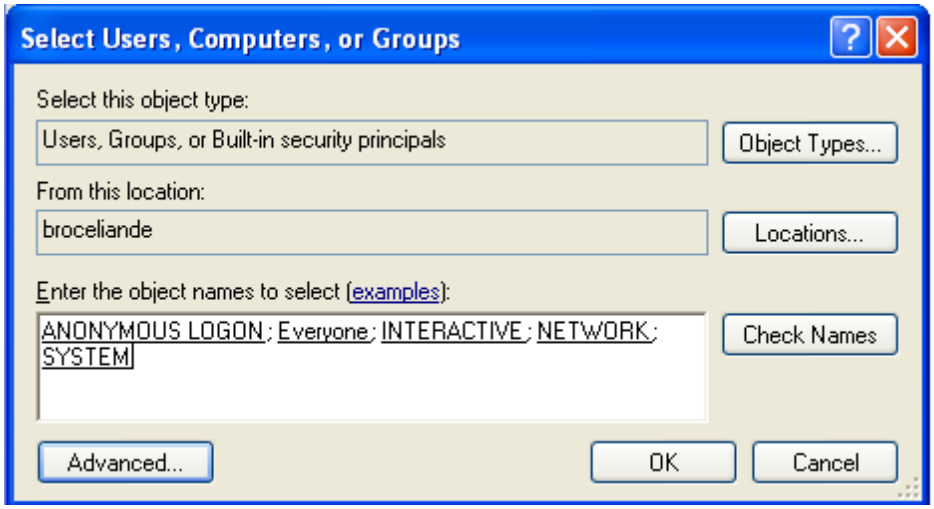


5. Click on the *Find Now* button to display the available permissions.

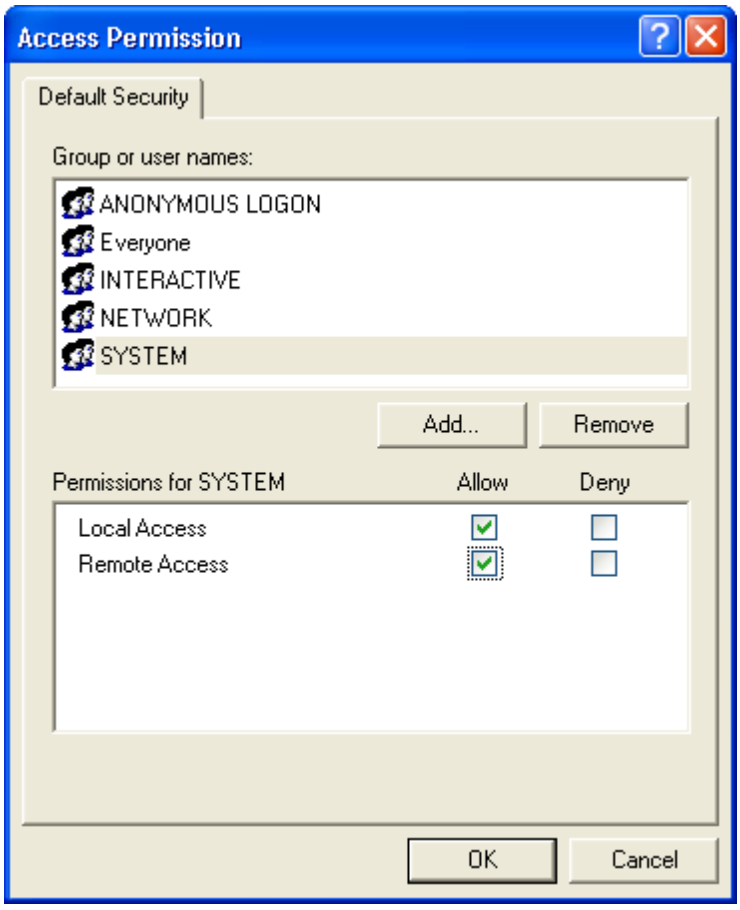


Select INTERACTIVE and press OK.

Repeat the steps 3 to 5 to add *NETWORK; SYSTEM; EVERYONE, ANONYMOUS LOGON.* The following screen should then be displayed.



Click on *OK* and the Access Permissions should be configured as below.



Default Access permissions:

• ANONYMOUS LOGON Allow Local Access

Allow Remote Access

• INTERACTIVE Allow Local Access

Allow Remote Access

• NETWORK Allow Local Access

Allow Remote Access

• SYSTEM Allow Local Access

Allow Remote Access

• Everyone Allow Local Access

Allow Remote Access

For the Limits Access permission, do the same as for the Default Access Permission.

The Limits Access permission should be set as shown below.